MITRE 4

FINAL DEVELOPMENT PLAN

FDP-2011-PR- 011-02

PROVIDENCE DISTRICT FAIRFAX COUNTY, VIRGINIA

AUGUST 01, 2012

SHEET INDEX

APPLICANT:
Cityline Partners LLC
1651 OLD MEADOW ROAD, SUITE 650
McLEAN, VA 22102

OWNER:
MITRE Corporation
C/O JONES LANG LASALLE AMERICAS, INC.
DEVELOPMENT MANAGER
1801 K STREET NW, STE. 1000
WASHINGTON DC 20006
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PLANNING/ARCHITECTURE:
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47 RANDALL STREET, SUITE 2
ANNAPOLIS MD 21401
T 410.268.7224 F 301.858.5854

CIVIL ENGINEERING:
Patton Harris Rust & Associates
A Pennoni Company
14532 LEE ROAD
CHANTILLY, VIRGINIA 20151-1679
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LANDSCAPE ARCHITECTURE:
Jordan Honeyman
Landscape Architecture LLC
711 FLORIDA AVE. NW
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T 202.986.0711 F 202.986.0712

ATTORNEYS:
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COURTHOUSE PLAZA
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COMMONWEALTH OF VIRGINIA
DAVID H. STEIGLER
Cert. No. 609
03-25-2013
LANDSCAPE ARCHITECT

REVISIONS:
MAR. 25, 2013
FEB. 04, 2013
DEC. 10, 2012
OCT. 19, 2012
SEPT. 13, 2012

GENERAL NOTES

1. THIS APPLICATION COMPRISES ONE PROPOSED OFFICE BUILDING REFERRED TO AS MITRE 4. A FINAL DEVELOPEMENT PLAN (FDP) APPROVAL IS REQUESTED FOR THE MITRE 4 BUILDING. THE SITE IS CURRENTLY UNDER CONSTRUCTION IN ACCORDANCE WITH SITE PLAN #3538-SP-003. A SPECIAL EXCEPTION FOR BUILDING HEIGHT WAS APPROVED WITH DEVELOPMENT CONDITIONS IN JUNE 2011. FOR REVIEW PURPOSES, ALL PROPOSED IMPROVEMENTS SHOWN SHOULD BE CONSIDERED AS AN EXISTING CONDITION .
2. THE AREA SUBJECT TO THIS FINAL DEVELOPMENT PLAN IS LOCATED ON A PORTION OF FAIRFAX COUNTY TAX ASSESSMENT MAP 30-3 ((28)) PARCEL 4C, AND IS IN THE NAME OF THE MITRE CORPORATION, AS RECORDED IN DEED BOOK 21971 PAGE 1338. THE PROPERTY CONSISTS OF 2.936 ACRES (127,882 SF).
3. THE SITE IS CURRENTLY VACANT. THE JOHNSON TWO OFFICE BUILDING AND ASSOCIATED SITE IMPROVEMENTS WERE REMOVED FROM THE SITE IN 2011.
4. THE SUBJECT PROPERTY IS LOCATED WITHIN THE COLSHIRE SUBDISTRICT OF THE FAIRFAX COUNTY COMPREHENSIVE PLAN FOR TYSONS CORNER URBAN CENTER. THE LAND USE RECOMMENDATION FOR THE SUBJECT PROPERTY IS OFFICE.
5. THE COMPREHENSIVE PLAN DOES NOT INDICATE ANY TRAILS ON THE SITE. IN ACCORDANCE WITH THE DRAFT BIKE LANE PLAN, BIKE LANES ARE PLANNED FOR COLSHIRE MEASOW DRIVE, AND DARTFORD DRIVE AS SHOWN ON SHEET 5.
6. FIELD SURVEY WAS PERFORMED BY PHR+A IN DECEMBER 2011. TWO (2) FOOT CONTOUR INTERVALS ARE PROVIDED.
7. KNOWN MAJOR UNDERGROUND UTILITY EASEMENTS LOCATED ON THE SUBJECT PROPERTY AND WITH A WIDTH GREATER THAN TWENTY-FIVE (25) FEET ARE SHOWN ON THE PLAN.
8. THE SITE IS IN THE SCOTTS RUN WATERSHED.
9. TO THE BEST OF OUR KNOWLEDGE, NO GRAVE SITE EXISTS ON THIS SITE.
10. TO THE BEST OF OUR KNOWLEDGE, NO HAZARDOUS OR TOXIC SUBSTANCES ARE PRESENT ON SITE AS SET FORTH IN TITLE 40, CODE OF FEDERAL REGULATIONS PARTS 116.4, 302.4, AND 355: ALL HAZARDOUS WASTE AS SET FORTH IN COMMONWEALTH OF VIRGINIA /DEPARTMENT OF WASTE MANAGEMENT REGULATIONS VR 672-10-1- VIRGINIA HAZARDOUS WASTE MANAGEMENT REGULATIONS; AND /OR PETROLEUM PRODUCTS STORED UNDERGROUND AS DEFINED IN TITLE 40, CODE OF FEDERAL REGULATIONS, PART 280. TO THE BEST OF OUR KNOWLEDGE THE PROPOSED DEVELOPMENT WILL NOT GENERATE, UTILIZE, STORE, TREAT OR DISPOSE OF ANY SUCH SUBSTANCES ON SITE.
11. THE SITE HAS NO SCENIC ASSETS OR NATURAL FEATURES DESERVING OF PROTECTION AND PRESERVATION.
12. NO FLOOD PLAINS, RESOURCE PROTECTION AREAS (RPA) OR ENVIRONMENTAL QUALITY CORRIDORS EXIST ON THE SITE.
13. MECHANICAL EQUIPMENT IS LOCATED IN THE UNDERGROUND GARAGE AND PENTHOUSE, AND IS EXCLUDED FROM GROSS FLOOR AREA (GFA) AND FLOOR AREA RATIO (FAR) COMPUTATIONS. ACCESSORY STRUCTURES MAY BE PLACED ON THE ROOF OF THE PENTHOUSE IN ACCORDANCE WITH SECTION 2-506 OF THE ZONING ORDINANCE.
14. PUBLIC SANITARY SEWER SERVICE WILL BE PROVIDED TO THE PROPOSED DEVELOPMENT BY AN EXTENSION FROM THE MAIN IN COLSHIRE DRIVE. PUBLIC WATER WILL BE PROVIDED BY AN EXTENSION FROM THE EXISTING MAIN IN COLSHIRE DRIVE. DETAILED DESIGN SHALL BE COMPLETED DURING FINAL SITE PLAN ENGINEERING.
15. INGRESS AND EGRESS TO THE PROPERTY FOR THE INTERM CONDITION (SHEET) IS VIA AN EXISTING TRAVEL WAY LOCATED TO THE NORTH OF THE SITE AS WELL AS COLSHIRE DRIVE (RTE 6471). FOR THE ULTIMATE CONDITION (SHEET 5), COLSHIRE MEADOW DRIVE WILL REPLACE THE EXISTING TRAVEL WAY AND PROVIDE ADDITIONAL ACCESS TO THE SITE
16. THE FINAL DEVELOPMENT PLAN (FDP) IS NOT AN ENGINEERING CONSTRUCTION DRAWING AND MINOR DEVIATIONS AND ADJUSTMENTS MAY BE REQUIRED. THE BUILDING FOOTPRINT MAY VARY TO ADDRESS FINAL ARCHITECTURAL OR ENGINEERING DESIGN AND CONSTRUCTION SO LONG AS BUILDING SETBACKS SHOWN ON THE FDP AND MAXIMUM FAR ARE MAINTAINED.

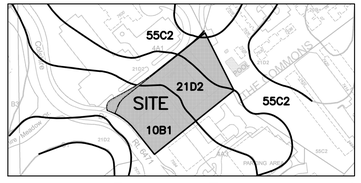
    PURSUANT TO SECTION 18-204(5) OF THE ZONING ORDINANCE, MINOR MODIFICATIONS TO THE BUILDING SHOWN ON THE FDP MAY BE PERMITTED. SUBJECT TO FINAL APPROVAL BY THE URBAN FORESTRY BRANCH ON-SITE LANDSCAPE AND STREETSCAPE DESIGNS SHALL BE IN CONFORMANCE WITH SHEETS 6 AND 7. SITE FEATURES SUCH AS BENCHES, TRASH RECEPTACLES, WALLS, STEPS, TRELLISES, LIGHTS, SIDEWALKS, AND THE LIKE THAT ARE SHOWN ON THE FDP MAY BE SUBJECT TO CHANGE WITHOUT MINOR MODIFICATIONS. FURTHERMORE, ADDITIONAL SITE FEATURES SUCH AS SIGNS, FLAGPOLES, AND FENCES/RAILINGS NOT SHOWN ON THE FDP MAY BE PROVIDED WITHOUT MINOR MODIFICATION.
17. FINAL LOCATION OF BUILDING MOUNTED AND FREESTANDING SIGNS TO BE DETERMINED DURING SITE PLAN REVIEW. ALL SIGNAGE TO COMPLY WITH ARTICLE 12 OF THE ZONING ORDINANCE.
18. THE DEVELOPMENT OF THIS PROJECT SHALL COMMENCE AT SUCH TIME AS APPROPRIATE COUNTY APPROVALS HAVE BEEN OBTAINED AND SUBJECT TO OWNER DISCRETION. REGARDING PHASING, THE APPLICANT DOES NOT ANTICIPATE PHASING THE CONSTRUCTION OF THE BUILDING OR PARKING SHOWN ON SHEET 4.
19. LIMITS OF CLEARING AND GRADING EXTEND TO AND GENERALLY COINCIDE WITH THE PROPERTY LINES WITH THE EXCEPTION OF THE PRESERVATION AREA ALONG THE NORTHEAST BOUNDARY, ROAD TIE-INS, AND UTILITY EXTENSIONS THAT MAY REQUIRE WORK OFF-SITE AS DETERMINED BY FINAL ENGINEERING AND DESIGN.
20. TO ACCOMMODATE BICYCLE USERS, BIKE RACKS TO FACILITATE 64 BIKES WILL BE PROVIDED IN THE UNDERGROUND GARAGE AND ABOVE GRADE. IN ADDITION, SHOWER AND LOCKER FACILITIES WILL BE PROVIDED WITHIN THE PROPOSED BUILDING.
21. THE ARCHITECTURAL DESIGN SHOWN WILL BE IN SUBSTANTIAL CONFORMANCE WITH THE ELEVATIONS AND RENDERINGS SHOWN HEREIN, AND CONSISTENT WITH EXISTING BUILDINGS ON THE MITRE CAMPUS.
22. THE APPLICANT RESERVES THE RIGHT FOR A POTENTIAL CONVERSION OF UP TO 5,000 SF OF THE 340,000 SF OFFICE SPACE TO RETAIL, PERSONAL/BUSINESS SERVICES, FAST FOOD RESTAURANT, QUICK SERVICE FOOD STORE AND/OR EATING ESTABLISHMENT AS SHOWN ON THE FDP.
23. THE APPLICANT RESERVES THE RIGHT FOR DENSITY CREDIT (SUBJECT TO PARAGRAPH 4 OF SECTION 2-308 OF THE ZONING ORDINANCE), FOR ALL ELIGIBLE DEDICATIONS AS SHOWN ON THIS FDP AND DETERMINED DURING FINAL ENGINEERING OR AS MAY BE REQUIRED BY FAIRFAX COUNTY OR VDOT PURSUANT TO THE PUBLIC FACILITIES MANUAL OR THE COMPREHENSIVE MASTER PLAN.

WAIVERS:

TO THE BEST OF OUR KNOWLEDGE, THE PROPOSED DEVELOPMENT WILL BE IN CONFORMANCE WITH APPLICABLE ORDINANCES, REGULATIONS, AND ADOPTED STANDARDS WITH THE EXCEPTION OF THE FOLLOWING:

1. REAFFIRMATION OF A WAIVER FROM THE REQUIRED 5 LOADING SPACES FOR AN INDIVIDUAL BUILDING. THIS APPLICATION IS PROPOSING TO PROVIDE 2 LOADING SPACES. LOADING SPACE WAIVER HAS BEEN PREVIOUSLY APPROVED UNDER SE 2010-PR-023.

SOILS MAP DATA



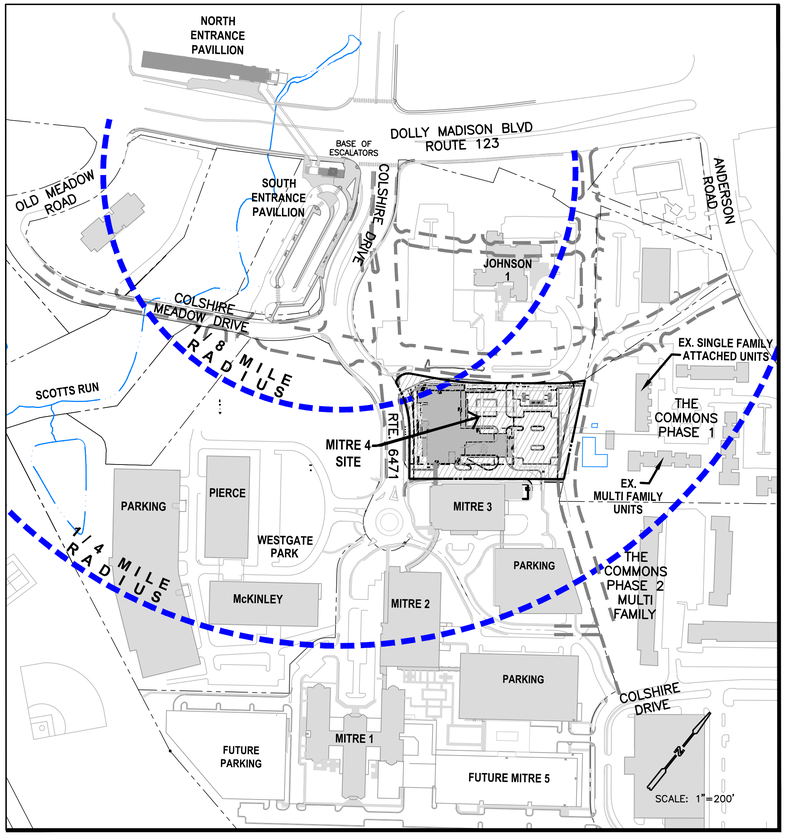
SCALE: 1" = 300'

SOILS MAP SOURCE: ☒COUNTY MAP; ☐PRIVATE SOILS SCIENTIST (FOR UNMAPPED SITES)

SOIL ID NUMBERS	SOIL SERIES NAME	FOUNDATION SUPPORT	SUBSURFACE DRAINAGE	SLOPE STABILITY	ERODABILITY	PROBLEM CLASS
10B1	GLENVILLE SILT LOAM	FAIR-B-W	MARGINAL-W	GOOD	MODERATE	B
21D2	MANOR SILT LOAM, HILLY PHASE	GOOD	GOOD	GOOD	HIGH	C
55C2	GLENELG SILT LOAM ROLLING PHASE	GOOD	GOOD	GOOD	HIGH	C

SOILS WITH IDENTIFICATION NUMBERS 59, 66, 69, 141, 142, AND 152 MAY OVERLIE PARENT BEDROCK FORMATIONS WHICH HAVE BEEN FOUND TO CONTAIN NATURALLY OCCURRING ASBESTOS MINERALS. SPECIAL MINIMUM CONSTRUCTION MEASURES AND PRECAUTIONS ARE REQUIRED IN COMPLIANCE WITH HEALTH DEPARTMENT DIRECTIVES WITHIN THESE SOILS OR WITHIN FILL ORIGINATING FROM THESE SOILS.

VICINITY MAP



MITRE 4 COURTYARD
LOOKING SOUTH

NOTE: THIS RENDERING SHOWS THE INTENT, CHARACTER AND QUALITY OF THE PROPOSED DEVELOPMENT. FINAL DESIGN AND MATERIALS WILL BE DETERMINED PRIOR TO ISSUANCE OF BUILDING PERMIT.

SITE TABULATIONS

EXISTING ZONE:		C-3/HC	
PROPOSED ZONE:		PTC	
USE:		OFFICE	
GROSS FLOOR AREA:		340,000 S.F. (1)	
		REQUIRED	**PROVIDED**
LOT SIZE			
	AREA	NO REQUIREMENT FOR EACH USE OR BUILDING	127,882 S.F. / 2.936 AC.
	WIDTH	NO REQUIREMENT FOR EACH USE OR BUILDING	303 FT.
	R.O.W. DEDICATION		14,030 S.F. ± (6)
	AREA AFTER DEDICATION		113,852 S.F.± / 2.613 AC.±
FAR		2.66 (2)	2.66
BUILDING HEIGHT		SEE FOOTNOTE (3) BELOW	225 FT.
YARDS			
	FRONT	SEE FOOTNOTE (3) BELOW	10 FT. ±
	SIDE	SEE FOOTNOTE (3) BELOW	9 FT. ±
	REAR	SEE FOOTNOTE (3) BELOW	118 FT. ±
OPEN SPACE:			
	TOTAL	SEE FOOTNOTE (3) BELOW	46,600 SF± (40.9 % ±)
	PASSIVE RECREATION (TEMPORARY POCKET PARK)		4,800 SF+/- (3.7 % ±)
PARKING		506 SPACES (4)	506 SPACES (4)
LOADING SPACES		5 SPACES	2 SPACES (5)

FOOTNOTES:

1 THE SCOTTS RUN STATION SOUTH CDP IS BEING PROCCESSED WITH THIS FDP AND ALLOWS FOR A MAXIMUM OF 340,000 SF ON THIS SITE, NONE OF WHICH HAS BEEN BUILT TO DATE. FOR THE PURPOSES OF CALCULATING FAR AND PARKING, 340,000 S.F. OF GROSS FLOOR AREA EXCLUDES CELLAR SPACE, THE OVERHEAD PEDESTRIAN CORRIDOR CONNECTION WITH THE MITRE 3 BUILDING, MECHANICAL EQUIPMENT ENCLOSURES, AND THE MECHANICAL EQUIPTMENT IN THE UNDERGROUND PARKING GARAGE AND PENTHOUSE. THE SMALL AMOUNT OF THE SITE THAT IS IN THE <1/8 MILE IS NOT REFLECTED AND CONSIDERED NEGLIGIBLE.

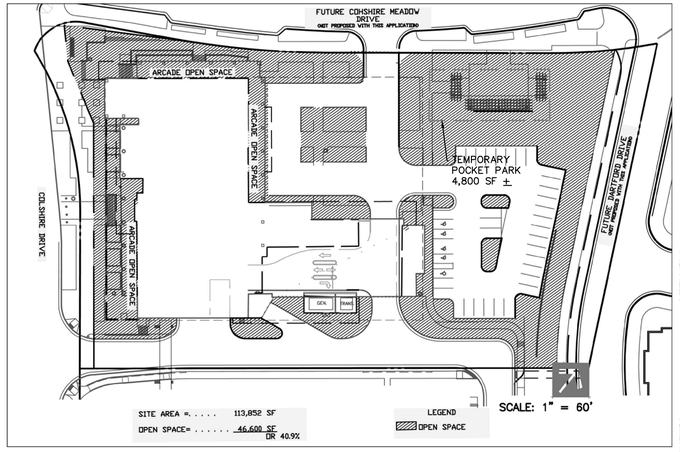
2 IN ACCORDANCE WITH SCOTTS RUN STATION SOUTH CDP RZ-2011-PR-011.

3 NO NUMERIC MINIMUM REQUIREMENT BUT TO BE CONSISTENT WITH THE REQUIREMENTS OF THE COMPREHENSIVE PLAN.

4 PARKING PROVISIONS ARE ESTABLISHED FOR THIS PROPOSED USE IN THE PARKING PLAN, SHEET 11.

5 REAFFIRMATION OF THE LOADING SPACE WAIVER REQUESTED WITH THIS APPLICATION. PREVIOUSLY APPROVED UNDER SE-2010- PR-023.

6 REFLECTS R.O.W. DEDICATION FOR COLSHIRE DRIVE, COLSHIRE MEADOW DRIVE, AND DARTFORD DRIVE AS SHOWN ON SHEET 5.



OPEN SPACE PLAN

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COMMONWEALTH OF VIRGINIA — DAVID H. STEIGLER — Lic. No. 609 — 03-25-2013 — LANDSCAPE ARCHITECT

TITLE: NOTES AND TABULATIONS

PROJECT: MITRE 4
FINAL DEVELOPMENT PLAN
FTP 2011-011-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA.

DESIGN	PHR+A	SURVEY	PHR+A
DRAWN	PHR+A	DATE	AUGUST 01, 2012
CHECKED	PHR+A	SCALE	AS SHOWN
FILE NO.	10022-1-9	CAT. NO.	
		SHEET	2 OF 20

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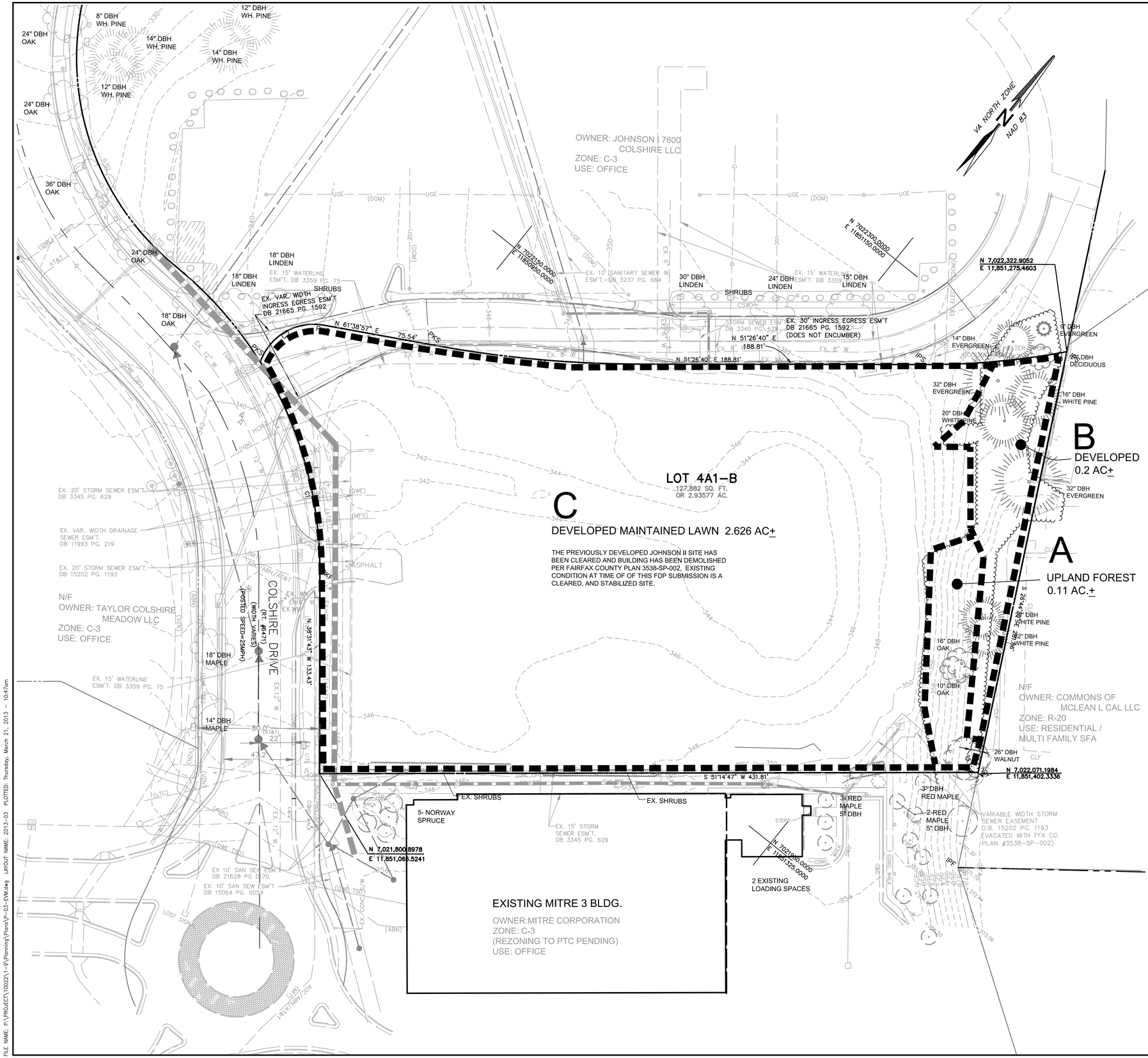

LEGEND:

EXISTING TREELINE

DECIDUOUS TREES

EVERGREEN TREES

EXISTING SHRUBLINE

GROSS SITE AREA . . . . . 127,882 SF / 2.936 AC.

EXISTING VEGETATION COVER TYPE SUMMARY TABLE MITRE 4

	COVER TYPE	PRIMARY SPECIES	UNDERSTORY SPECIES	SUCCESSIONAL STAGES	CONDITION	TOTAL AREA
A	UPLAND FOREST	PREDOMINATELY CARYA SPP., ASH, ACER PP., PRUNUS SEROTINA AND LONDON PLANE	UNDERSTORY OF DENSE INVASIVE VINES AND LONICERA SPP. SOME DOGWOOD AND PRIMARY SPP. SEEDINGS. DEVELOPING.	SUB-CLIMAX	GOOD / FAIR	0.11 AC±
B	DEVELOPED	LANDSCAPED SCREENING PLANTINGS NOT MAINTAINED, CONSISTING PRIMARILY OF MATURE EASTERN WHITE PINE.		N/A	GOOD/ FAIR	0.20 AC±
C	DEVELOPED MAINTIANED LAWN	THE PREVIOUSLY DEVELOPED JOHNSON II SITE HAS BEEN CLEARED AND BUILDING HAS BEEN DEMOLISHED PER FAIRFAX COUNTY PLAN 3538-SP-002. EXISTING CONDITION AT TIME OF OF THIS FDP SUBMISSION IS CLEARED, STABILIZED SITE. NO TREES OR SHRUB PLANTINGS IN HTIS AREA.		N/A	GOOD	2.626 AC±
TOTAL COVER AREA						2.936 AC±

	COVER TYPE	ADDITIONAL COMMENTS & CONDITION DESCRIPTION:
A	UPLAND FOREST	VAROUS AGED LINDEN AND PIN OAKS 6" TO 24" DBH MAKES UP ABOUT 95% COVER TYPE. THIS STAND IS IN GOOD CONDITION WITH NO APPARENT DISEASE SYMPTOMS
B	DEVELOPED	THE LANDSCAPE PLANTINGS ARE OVERGROWN WITH INVASIVE VINES & SHRUBS (POISON IVY, WILD GRAPE, AND LONICERA SPP.). SEVERAL WHITE PINES ARE LARGE BETWEEN 32" & 22" DBH REQUIRING SOME MINOR PRUNING AND VINE REMOVAL. VEGETATION IS IN GOOD HEALTH WITH NO APPARENT PROBLEMS.
C	DEVELOPED MAINTIANED GRASSLAND	THIS AREA HAS BEEN CLEARED AND BUILDING HAS BEEN DEMOLISHED PER FAIRFAX COUNTY PLAN 3538-SP-002. EXISTING CONDITION AT TIME OF OF THIS FDP SUBMISSION IS CLEARED, STABILIZED SITE.

TREE PRESERVATION TARGET CALCULATION:

PRE-DEVELOPMENT AREA OF EXISTING TREE CANOPY FROM EXISTING VEGETATION MAP	0.31 AC±
PERCENTAGE OF GROSS SITE AREA COVERED BY EXISTING TREE CANOPY	10.67%
PERCENTAGE OF 10 YEAR CANOPY REQUIRED FOR SITE ZONING C-3	10%
PERCENTAGE OF THE 10 YEAR TREE CANOPY REQUIREMENT THAT SHOULD BE MET THROUGH TREE PRESERVATION	1.07%
PROPOSED PERCENTAGE OF THE TREE CANOPY REQUIREMENT THAT WILL BE MET THROUGH TREE PRESERVATION	6.45% ✱
HAS THE TREE PRESERVATION TARGET MINIMUM BEEN MET? .	YES

✱ FOR TREE SAVE AREA AND 10 YEAR CANOPY CALCULATIONS SEE LANDSCAPE PLAN (SHEET 05).

CURVE TABLE						
CURVE	LENGTH	RADIUS	TANGENT	DELTA	CHORD BEARING	CHORD
C1	143.78	256.00	73.84	32°10'44"	N54°37'05"W	141.89
C2	52.28	37.00	31.58	80°57'16"	N21°10'00"E	48.04
C3	132.96	746.50	66.65	10°12'16"	N56°32'49"E	132.78
C4	92.36	496.50	46.32	10°39'31"	N46°06'55"E	92.23

30 0 30 60
SCALE 1" = 30' FEET

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COMMONWEALTH OF VIRGINIA
DAVID H. STRIEGLER
Lic. No. 609
03-25-2013
LANDSCAPE ARCHITECT

TITLE: EXISTING CONDITIONS / EXISTING VEGETATION MAP

PROJECT: MITRE 4
FINAL DEVELOPMENT PLAN
FTP 2011-011-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA.

DESIGN	PHR+A	SURVEY	PHR+A
DRAWN	PHR+A	DATE	AUGUST 01, 2012
CHECKED	PHR+A	SCALE	1" = 30'
FILE NO.	10022–1–9	CAT. NO.	
		SHEET	3 OF 20

FILE NAME: P:\PROJECT\10022\1-9\Planning\Plans\P-03-EVM.dwg LAYOUT NAME: 2013-03 PLOTTED: Thursday, March 21, 2013 - 10:47am

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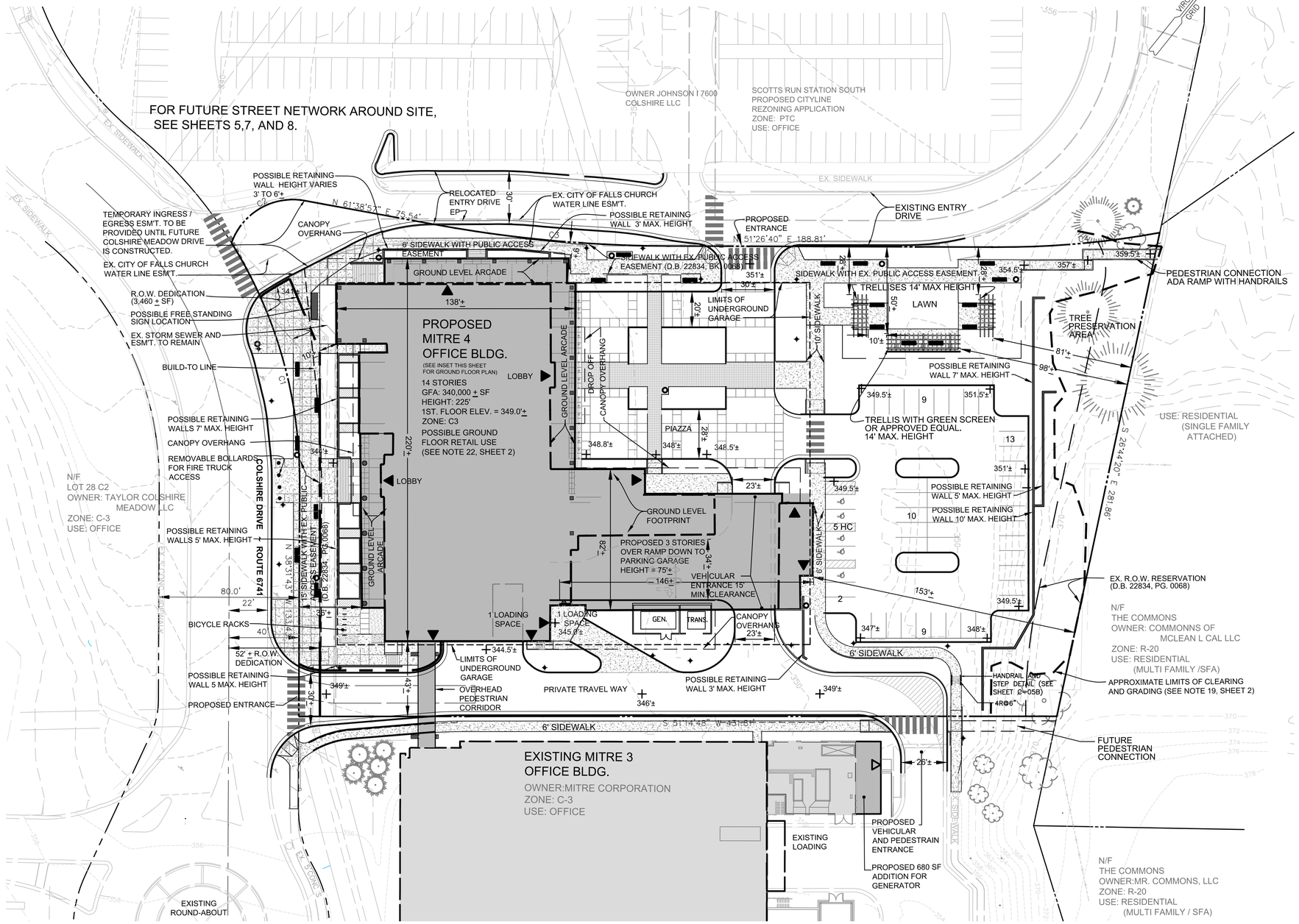
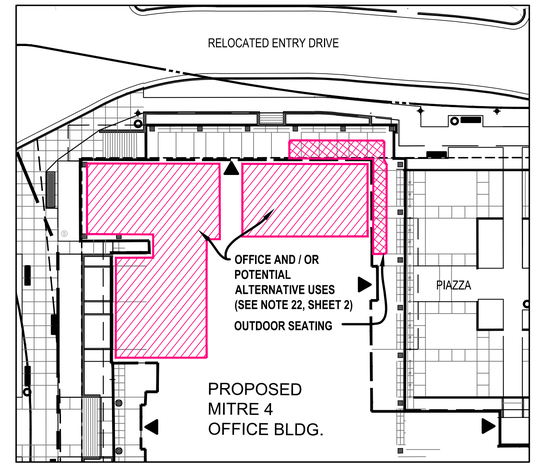
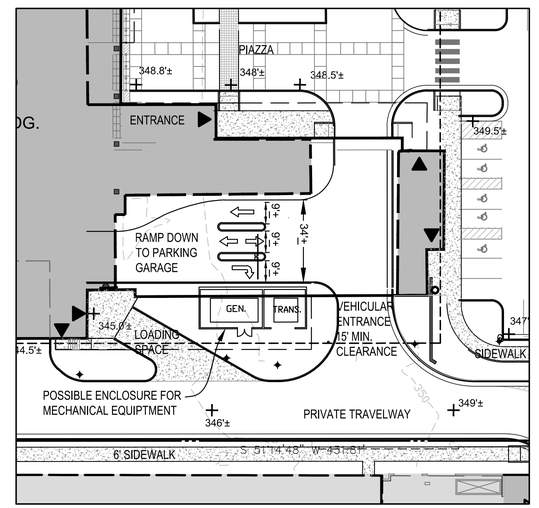




GROUND FLOOR BUILDING PLAN
SHOWING POTENTIAL ALTERNATIVE USES

0' 15' 30'
SCALE: 1"=30'



GROUND LEVEL PLAN
AT GARAGE ENTRANCE

0' 15' 30'
SCALE: 1"=30'

LEGEND

- PEDESTRIAN LIGHT
- BENCH
- TRASH RECEPTACLE
- BUILDING ENTRANCE

COMMONWEALTH OF VIRGINIA
DAVID H. STEELER
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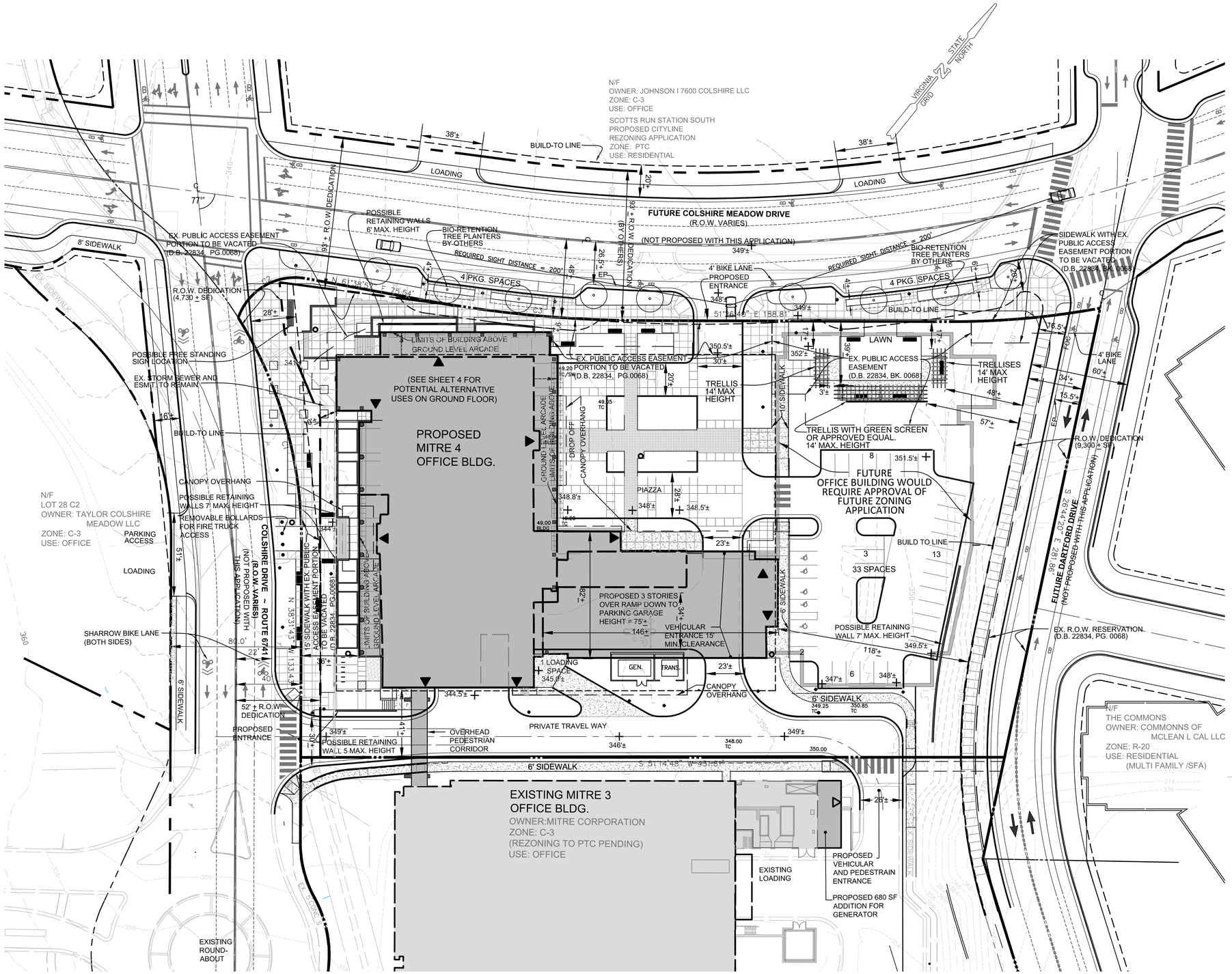
TITLE
FINAL DEVELOPMENT PLAN
INITIAL / INTERIM STREET NETWORK

PROJECT
MITRE 4
FINAL DEVELOPMENT PLAN
FTP 2011-011-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA.

DESIGN	PHR+A	SURVEY	PHR+A
DRAWN	PHR+A	DATE	AUGUST 01, 2012
CHECKED	PHR+A	SCALE	1" = 30'
FILE NO.	10022-1-9	CAT. NO.	
		SHEET	4 OF 20

FILE NAME: P:\PROJECT\10022\1-9\Planning\Plans\P-04 FDP.dwg LAYOUT NAME: 2013-03 PLOTTED: Friday, March 22, 2013 - 1:50pm



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LEGEND

- PEDESTRIAN LIGHT
- BENCH
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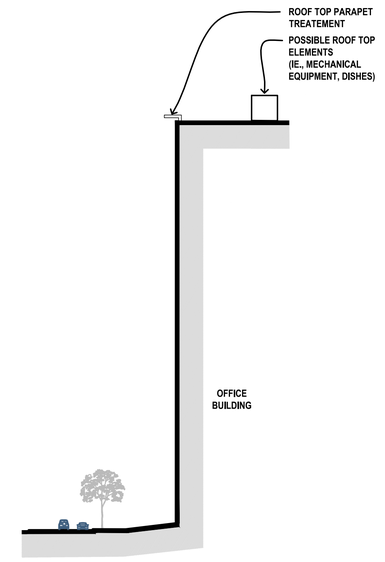

BUILDING SECTION

SCALE: 1" = 40'-0

County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

August 4, 2011

Mr. Robert A. Munse
Patton Harris Rust & Associates
14532 Lee Road
Chantilly, VA 20151

Reference: Waiver Request to Partially Eliminate Fire Lane Signage and Yellow Curb Paint and request to utilize decorative removable bollards within a Fire Access Lane.
MITRE 4 Site Plan
Fairfax County Site Plan # 3538-SP-003-1
Tax Map #030-3-28-00-0004-A; Providence District

Dear Mr. Munse:

This letter is in response to your letter request dated July 5, 2011, for a waiver to partially eliminate fire lane signage and yellow curb paint and request to utilize decorative removable bollards within a Fire Access Lane.

1) I understand that several (4) manually retractable bollards are proposed within the front side Fire Access Lane at the MITRE 4 site on Colshire Drive. The bollards do not prevent fire apparatus access or positioning at this location so your request to install them is approved. The expectation is the bollards will be lowered upon the activation of any Fire Alarm or other related emergencies by the on-site security and support personnel prior to the arrival of fire units and these bollards shall be exercised monthly to ensure proper operation. I would also ensure there are extra bollard keys available in the Fire Control Room.

2) The waiver request to partially eliminate fire lanc signage and yellow curb paint is denied based on the fact that you did not justify how your waiver request meets the spirit and intent of the Fairfax County Fire Prevention Code regarding compliance with Section 503 Fire Apparatus Access Roads and the Fairfax County Public Faculties Manual, 9-0202.2J Fire Department Access including requirements listed in Plate 6-9.

If you have questions regarding this matter, please contact me at 703-246-4753.

Proudly Protecting and Serving Our Community

Fire and Rescue Department
Fire Prevention Division
10700 Page Avenue
Fairfax, Virginia 22030
703-246-4800
www.fairfaxcounty.gov/fire

Mr. Robert A. Munse
August 4, 2011
Page 2

You have the right to appeal this decision to the Board of Building Code Appeals within 14 days from the date you receive this letter. You may arrange an appeal or obtain information on the appeals process by contacting Carla C. Bird, Secretary to the Board of Building Code Appeals, at 703-324-1780

Sincerely,

Dereck A. Baker
Deputy Chief
Office of the Fire Marshal

cc: Audrey C. Clark, Director, Building Plan Review Division
File

COMMONWEALTH OF VIRGINIA — DAVID H. STEELER — Lic. No. 609 — 03-25-2013 — LANDSCAPE ARCHITECT

Patton Harris Rust & Associates, Inc.
Engineers. Surveyors. Planners. Landscape Architects.
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PHR+A

TITLE
FINAL DEVELOPMENT PLAN
ULTIMATE STREET NETWORK

PROJECT
MITRE 4
FINAL DEVELOPMENT PLAN
FTP 2011-011-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA.

DESIGN	PHR+A	SURVEY	PHR+A
DRAWN	PHR+A	DATE	AUGUST 01, 2012
CHECKED	PHR+A	SCALE	1" = 30'
FILE NO.	10022-1-9	CAT. NO.	SHEET 5 OF 20

FILE NAME: P:\PROJECT\10022\1-9\Planning\Plans\P-05 FDP-ULT.dwg LAYOUT NAME: 2013-03 PLOTTED: Monday, March 25, 2013 - 9:04am

LANDSCAPE LEGEND

CANOPY TREES (CATEGORY IV, 3" CAL.)
- RED MAPLE, *ACER RUBRUM*
- SWEET GUM, *LIQUIDAMBAR STYRACIFLUA 'CHEROKEE'*
- TULIP POPLAR, *LIRODENDRON TULIPIFERA*
- SWAMP WHITE OAK, *QUERCUS BICOLOR*
- SCARLET OAK, *QUERCUS COCCINEA*
- PIN OAK, *PALUSTRIS*
- WILLOW OAK, *QUERCUS PHELLOS*
- ZELKOVA, *ZELKOVA SERRATA*

INTERIOR PARKING LOT LANDSCAPING PROVIDED (CATEGORY IV, 3" CAL)
- ZELKOVA, *ZELKOVA SERRATA*

EVERGREEN TREES (CATEGORY I, II, AND IV)
- AMERICAN HOLLY, *ILEX OPACA*
- FOSTER HOLLY, *BILEX X ATTENUATA 'FOSTER'S #2'*
- AMERICAN ARBORVITAE, *THUJA OCCIDENTALIS 'NIGRA'*
- MAGNOLIA GRANDIFLORA, *SOUTHERN MAGNOLIA*

MEDIUM ORNAMENTAL TREES (CATEGORY III, 3" CAL.)
- RIVER BIRCH, *BETULA NIGRA*
- BLACK GUM, *NYSSA SYLVATICA*
- AMERICAN YELLOWWOOD, *CLADRASTIS LUTEA*

SMALL ORNAMENTAL TREES (CATEGORY I AND II, 2" CAL.)
- JAPANESE MAPLE, *ACER PALMATUM*
- DOWNY SERVICEBERRY, *AMELANCHIER LAEVIS*
- EUROPEAN UPRIGHT HORNBEAM, *CARPINUS BETULUS 'FASTIGIATA'*
- REDBUD, *CERCUS CANADENSIS*
- CRAPEMYRTLE, *LAGERSTROEMIA X 'LIPAN'*
- SAUCER MAGNOLIA, *MAGNOLIA SOULANGIANA*
- SWEETBAY MAGNOLIA, *MAGNOLIA VIRGINIANA*
- SOURWOOD, *OXYDENDRUM ARBOREUM*

SHRUBS
- DWARF SUMMERSWEET, *CLETHRA ALNIFOLIA 'HUMMINGBIRD'*
- SLENDER DEUTZIA, *DEUTZIA GRACILLIS 'NIKKO'*
- LIMELIGHT HYDRANGEA, *HYDRANGEA PANICULATA 'LIMELIGHT'*
- OAKLEAF HYDRANGEA, *HYDRANGEA QUERCIFOLIA*
- VIRGINIA SWEETSPIRE, *ITEA VIRGINICA 'HENERY'S GARNET'*
- HEAVENLY BAMBOO, *NANDINA DOMESTICA 'MOON BAY'*
- DWARF CHERRY LAUREL, *PRUNUS LAUROCERASUS 'OTTO LUYKEN'*
- SCHIP LAUREL, *PRUNUS LAUROCERASUS 'SCHIPKAENSIS'*
- WHITE AZALEA, *RHODODENDRON X 'HARDY GARDENIA'*
- TIGER EYES SUMAC, *RHUS TYPHINA 'TIGER EYES'*
- DRIFT ROSES, *ROSA X 'CORAL DRIFT' AND 'PEACH DRIFT'*
- KNOCKOUT ROSE, *ROSA X 'KNOCKOUT'*
- EUONYMUS KIAUTSCHOVICUS 'MANHATTAN', 'MANHATTAN' EUONYMUS

PERENNIALS AND GROUNDCOVERS

LAWN

THE ABOVE PLANT LIST SHOWS THE INTENT AND CHARACTER OF THE PROPOSED DEVELOPMENT. FINAL DESIGN AND PLANT MATERIALS WILL BE DETERMINED PRIOR TO ISSUANCE OF THE BUILDING PERMIT.

PEDESTRIAN LIGHT

BENCH

TRASH RECEPTACLE

BOLLARDS

BUILDING ENTRANCES

EXISTING TREES TO BE PRESERVED

ALTERNATE LOCATION FOR TREES IN UTILITY EASEMENT (SEE NOTE 3)

PRELIMINARY TREE COVER CALCULATIONS

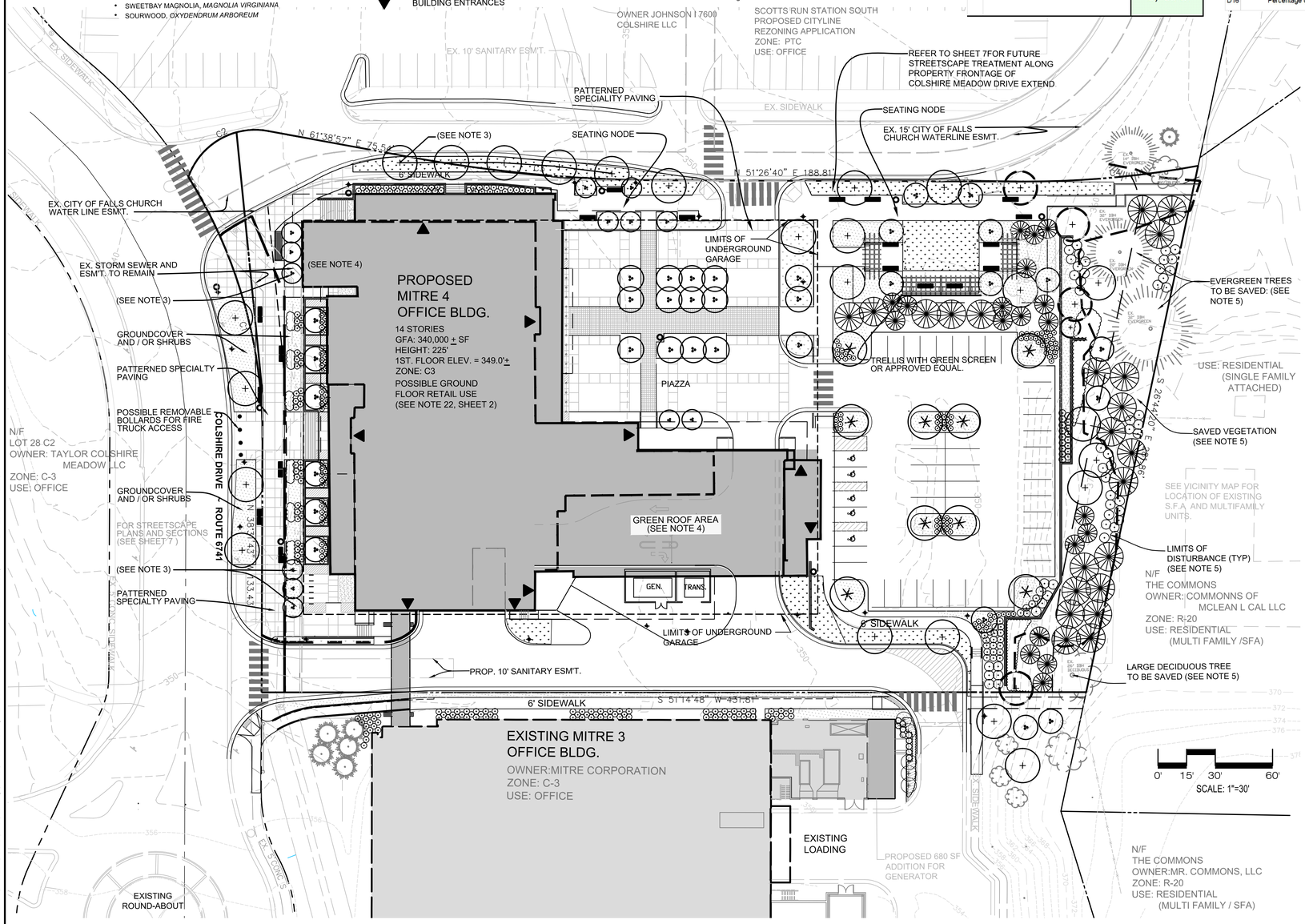
	Tree Canopy Requirement	
B1	Identify gross site area =	127,882 SF
B2	Subtract area dedicated to parks, road frontage	0.00 SF
B3	Subtract area of exemptions =	0.00 SF
B4	Adjusted gross site area (B1 – B2) =	**127,882 SF**
B5	Identify site's zoning and/or use	PTC
B6	Percentage of 10-year tree canopy required =	10 %
B7	Area of 10-year tree canopy required (B4 x B6) =	**12,788 SF**
B8	Modification of 10-year Tree Canopy Requirements requested?	NO
B9	If B8 is yes, then list plan sheet where modification request is located	N/A

	Tree Preservation	
C1	Tree Preservation Target Area =	**1,365 SF**
C2	Total canopy area meeting standards of § 12-0200 =	6,600 SF
C3	C2 x 1.25 =	**8,250 SF**
C4	Total canopy area provided by unique or valuable forest or woodland communities =	0 SF
C5	C4 x 1.5 =	**0 SF**
C6	Total of canopy area provided by "Heritage,""Memorial," "Specimen," or "Street" trees =	0 SF
C7	C6 x 1.5 to 3.0 =	**0 SF**
C8	Canopy area of trees within Resource Protection Areas and 100-year floodplains =	0 SF
C9	C8 x 1.0 =	**0 SF**
C10	Total of C3, C5, C7 and C9 =	**8,250 SF**

	Tree Planting	
D1	Area of canopy to be met through tree planting (B7-C10) =	**4,538 SF**
	Area of canopy planted at 1x the canopy credit	**14,710 SF**
D2	Area of canopy planted for air quality benefits =	0 SF
D3	x 1.5 =	**0 SF**
D4	Area of canopy planted for energy conservation =	0 SF
D5	x 1.5 =	**0 SF**
D6	Area of canopy planted for water quality benefits =	0 SF
D7	x 1.25 =	**0 SF**
D8	Area of canopy planted for wildlife benefits =	0 SF
D9	x 1.5 =	**0 SF**
D10	Area of canopy provide by native trees =	0 SF
D11	x 1.5 =	**0 SF**
D12	Area of canopy provided by improved cultivars and varieties =	0 SF
D13	x 1.25	**0 SF**
	Area of canopy provided by problem species / conditional credit	**0 SF**
D14	Area of canopy provided through tree seedlings =	0 SF
	x1.0	**0 SF**
D15	Area of canopy provided through native shrubs or woody seed mix =	0 SF
	x 1.0	**0 SF**
D16	Percentage of D14 represented by D15=	0 %

D17	Total of canopy area provided through tree planting =	**14,710 SF**
D18	Is an offsite planting relief requested?	NO
D19	Tree Bank or Tree Fund?	NO
D20	Canopy area requested to be provided through offsite banking or tree fund	**0 SF**
D21	Amount to be deposited into the Tree Preservation and Planting Fund	

	Total of 10-year Tree Canopy Provided	
E1	Total of canopy area provided through tree preservation (C10) =	**8,250 SF**
E2	Total of canopy area provided through tree planting (D17) =	**14,710 SF**
E3	Total of canopy area provided through offsite mechanism (D19) =	**0 SF**
E4	Total of 10-year Tree Canopy Provided = (E1+E2+E3)	**22,960 SF** OR (18%)



PROPOSED CREDIT PROVIDED BY PLANTING ON SITE*	(D17)	14,710 SF
11 CAT. I DECIDUOUS TREES = 1,100 SF		
18 CAT. II DECIDUOUS TREES = 2,225 SF		
15 CAT. III DECIDUOUS TREES = 2,625 SF		
18 CAT. IV DECIDUOUS TREES = 4,500 SF		
19 CAT. I EVERGREEN TREES = 760 SF		
16 CAT. II EVERGREEN TREES = 2,000 SF		
6 CAT. IV EVERGREEN TREES = 1,500 SF		

*OFF-SITE TREES AND TREES PLANTED WITHIN UTILITY EASEMENTS ARE NOT INCLUDED TREE COVER CALCULATIONS.

INTERIOR PARKING LOT LANDSCAPING	
PAVED AREA WITHIN CONSTRUCTION LIMITS	32,400 SF
INTERIOR LANDSCAPING REQUIRED (5%)	1,620 SF
TOTAL SHADE TREE COVER PROVIDED 6.9% (9 CATEGORY IV DECIDUOUS TREES @ 250 SF)	2,250 SF

NOTES:

1. LANDSCAPING ALONG THE NORTHERN PROPERTY LINE (SOUTH SIDE OF THE EXISTING ENTRY DRIVE BETWEEN EXISTING JOHNSON I AND PROPOSED MITRE 4) INCLUDES LARGE DECIDUOUS TREES AND SIX FOOT CONCRETE SIDEWALK.
2. COLSHIRE MEADOW DRIVE EXTENSION IS NOT PROPOSED WITH THIS APPLICATION, STREETSCAPE IMPROVEMENTS ASSOCIATED WITH THE PROPOSED FUTURE COLSHIRE MEADOW DRIVE EXTENSION ARE SHOWN ON SHEET 7 AND WILL BE PROVIDED WITH THAT PUBLIC IMPROVEMENT PLAN AT THE TIME OF APPLICATION.
3. PREMISSION HAS BEEN GRANTED BY THE CITY OF FALLS CHURCH WATER AUTHORITY AND FAIRFAX COUNTY DPWES FOR THE PROPOSED TREES SHOWN IN THE EXISTING UTILITY EASEMENTS (SEE SITE PLAN # 3538-SP-003 FOR LETTERS). IF MAINTENANCE ON THE UTILITY DAMAGES THE TREES AND IT IS REMOVED THEN THE OWNER (MITRE) IS RESPONSIBLE FOR REPLACEMENT OF TREES.
4. GREEN ROOF PLANTING AREAS MAY CONSIST OF LOW PLANT MATERIAL, SUCH AS SEDUMS, IN ACCORDANCE WITH THE SITE'S OVERALL LID PROGRAM, SHEET 12.
5. LANDSCAPE PLAN AND TREE COVER CALCULATION SHOWN REFLECTS INITIAL CONDITIONS PRIOR TO RIGHT OF WAY DEDICATION. FOR MODIFICATIONS TO THE LANDSCAPE PLAN REFLECTING THE ULTIMATE STREET NETWORK, SEE SHEET 8.

COMMONWEALTH OF VIRGINIA — DAVID H. STEELER — Lic. No. 609 — 03-25-2013 — LANDSCAPE ARCHITECT

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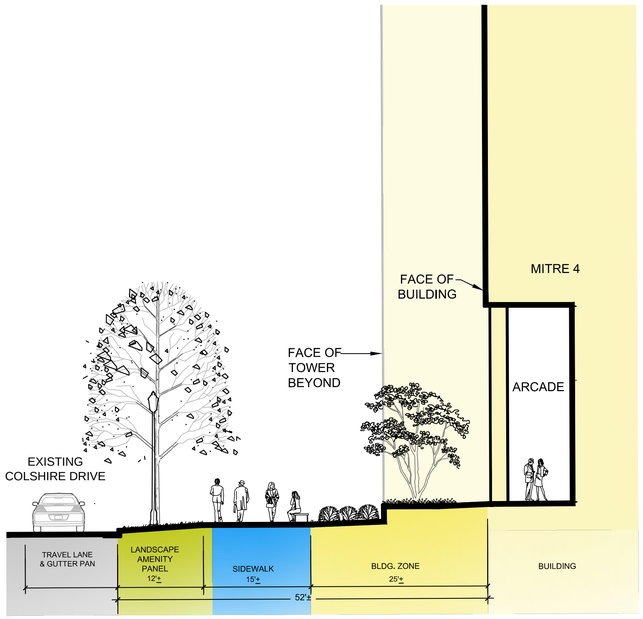
TITLE: LANDSCAPE PLAN

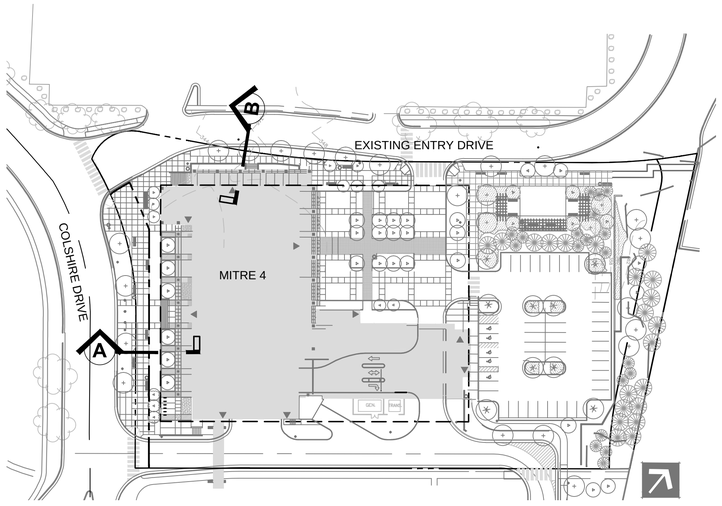
PROJECT: MITRE 4
FINAL DEVELOPMENT PLAN
FTP 2011-011-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA.

DESIGN	SURVEY	DATE	SCALE	SHEET
PHR+A	PHR+A	AUGUST 01, 2012	1" = 30'	6 OF 20
DRAWN				
PHR+A				
CHECKED				
PHR+A				
FILE NO. 10022-1-9		CAT. NO.		

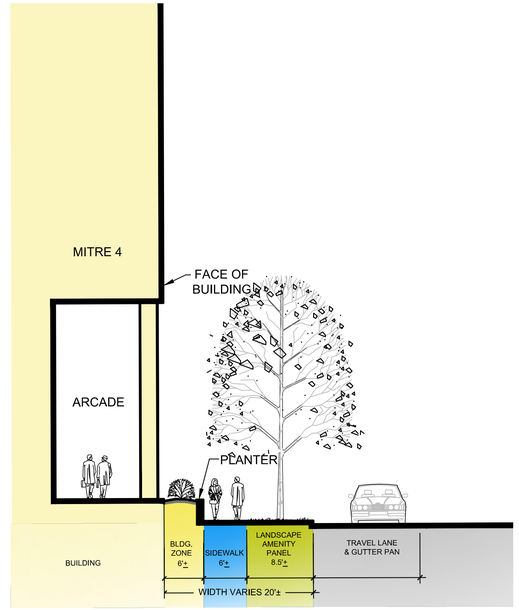
FILE NAME: P:\PROJECT\10022\1-9\Planning\Plans\P-06_LND.dwg LAYOUT NAME: 2013-03 PLOTTED: Thursday, March 21, 2013 – 12:16pm



SECTION A-A SCALE: 1"=10'-0"

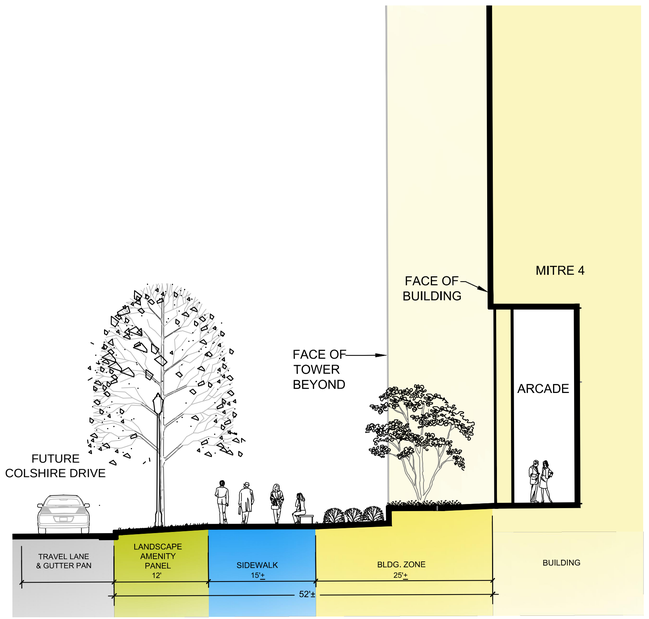


KEY MAP SCALE: 1" = 60'-0



SECTION B-B SCALE: 1"=10'-0"

PROPOSED CONDITION



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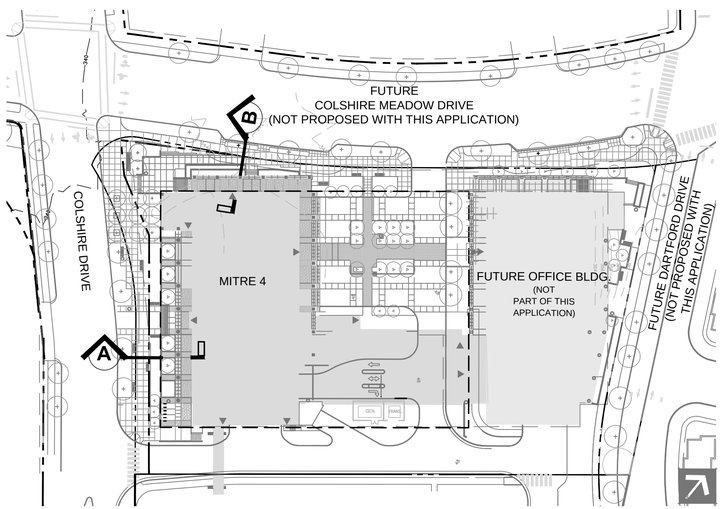
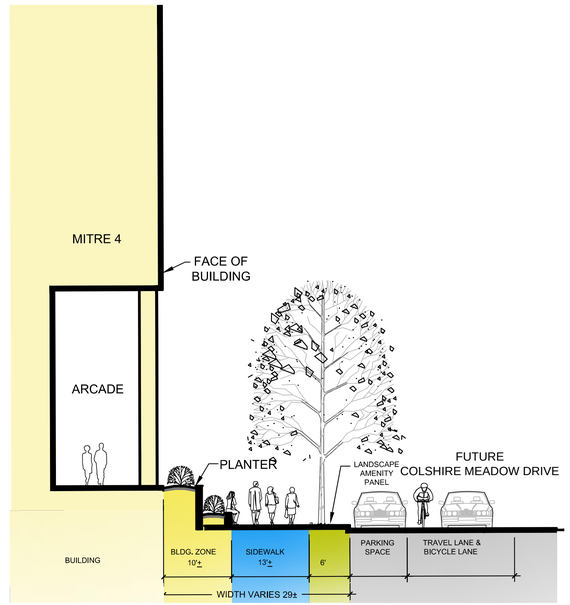


KEY MAP SCALE: 1" = 60'-0



SECTION B-B SCALE: 1"=10'-0"

FUTURE CONDITION WITH COLSHIRE MEADOW DRIVE

STREETSCAPE PLAN SHOWN ABOVE IS CONCEPTUAL AND IS SUBJECT TO CHANGE WITH FINAL DESIGN.

THIS DRAWING SHOWS THE INTENT, CHARACTER AND QUALITY OF THE PROPOSED DEVELOPMENT. FINAL DESIGN AND MATERIALS WILL BE DETERMINED PRIOR TO ISSUANCE OF BUILDING PERMIT.

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COMMONWEALTH OF VIRGINIA
DAVID H. STEELER
Lic. No. 609
03-25-2013
LANDSCAPE ARCHITECT

TITLE: STREETSCAPE PLANS AND SECTIONS

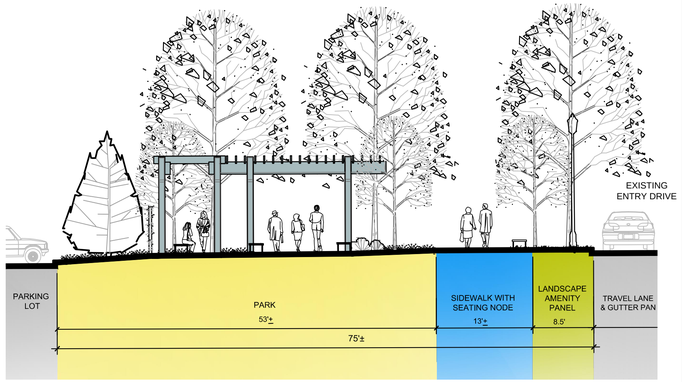
PROJECT: MITRE 4
FINAL DEVELOPMENT PLAN
FTP 2011-011-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA.

DESIGN	PHR+A	SURVEY	PHR+A
DRAWN	PHR+A	DATE	AUGUST 01, 2012
CHECKED	PHR+A	SCALE	AS SHOWN
FILE NO.	10022-1-9	CAT. NO.	
		SHEET	7 OF 20

FILE NAME: P:\PROJECT\10022\1-9\Planning\Plans\P-07 LND-DET.dwg LAYOUT NAME: 2013-03 PLOTTED: Friday, March 22, 2013 - 5:21pm

LANDSCAPE PARK LOOKING NORTH EAST

LANDSCAPE PARK ENTRY LOOKING NORTH EAST



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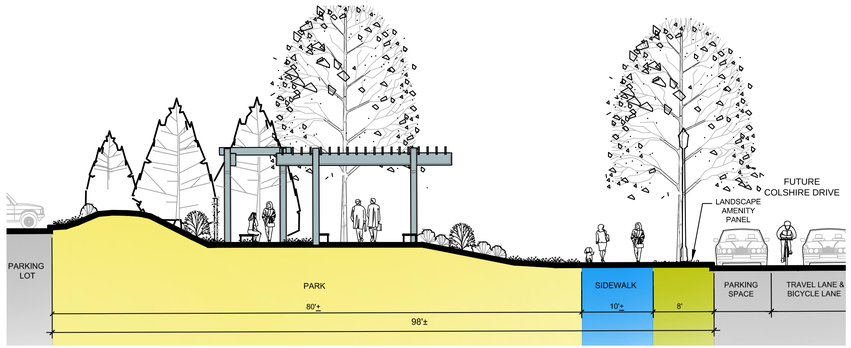

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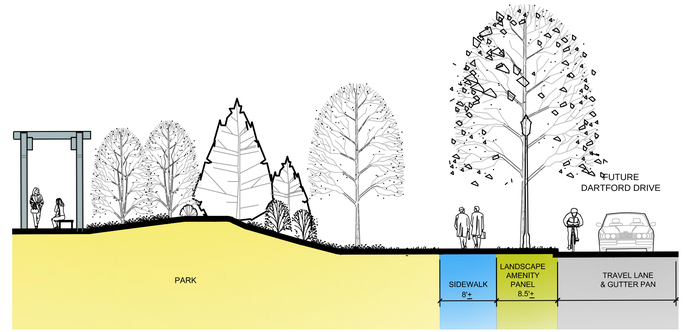
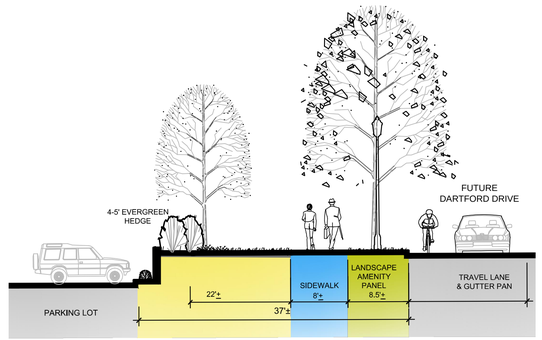
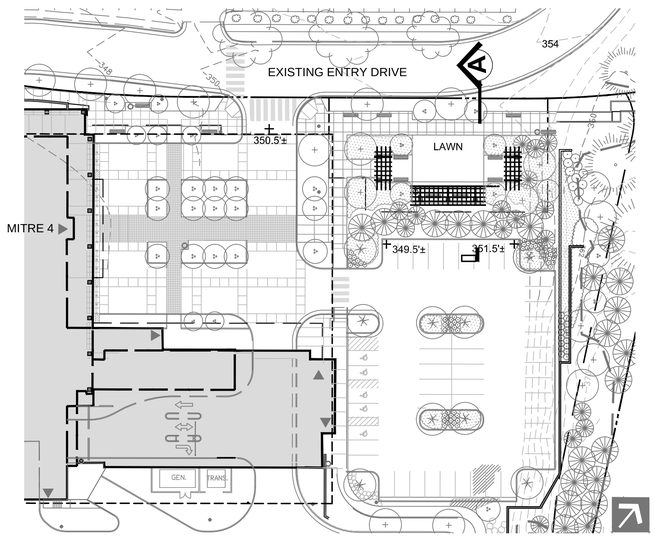


SECTION C-C SCALE: 1"=10'-0"

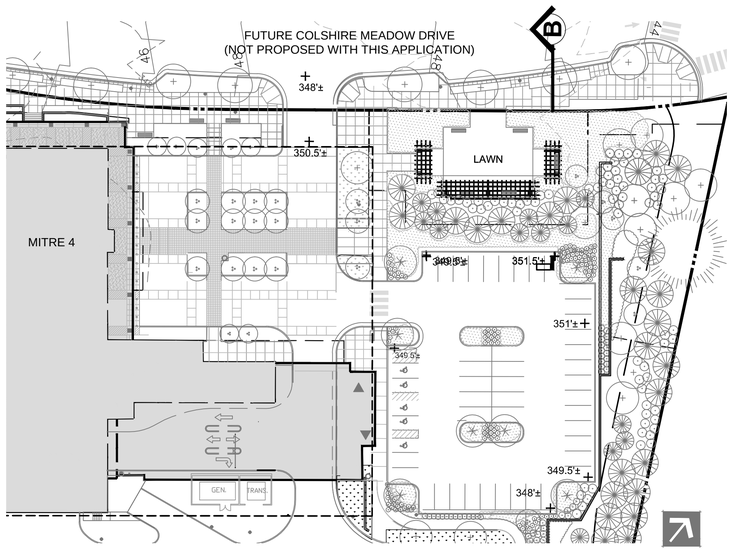


SECTION D-D SCALE: 1"=10'-0"



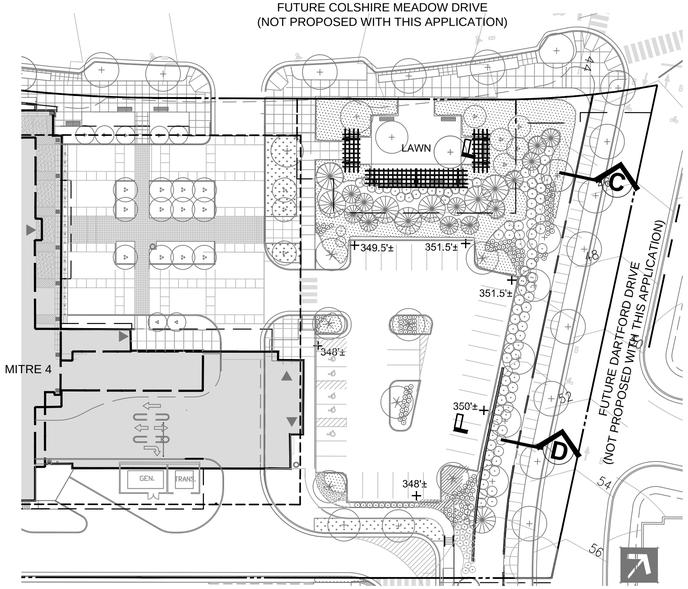
KEY MAP SCALE: 1" = 40'-0

PROPOSED CONDITION



KEY MAP SCALE: 1" = 40'-0

FUTURE CONDITION WITH COLSHIRE MEADOW DRIVE



KEY MAP SCALE: 1" = 40'-0

FUTURE CONDITION WITH DARTFORD DRIVE

NOTE:

THESE DRAWINGS SHOW THE INTENT, CHARACTER AND QUALITY OF THE PROPOSED DEVELOPMENT. FINAL DESIGN AND MATERIALS WILL BE DETERMINED PRIOR TO ISSUANCE OF BUILDING PERMIT.

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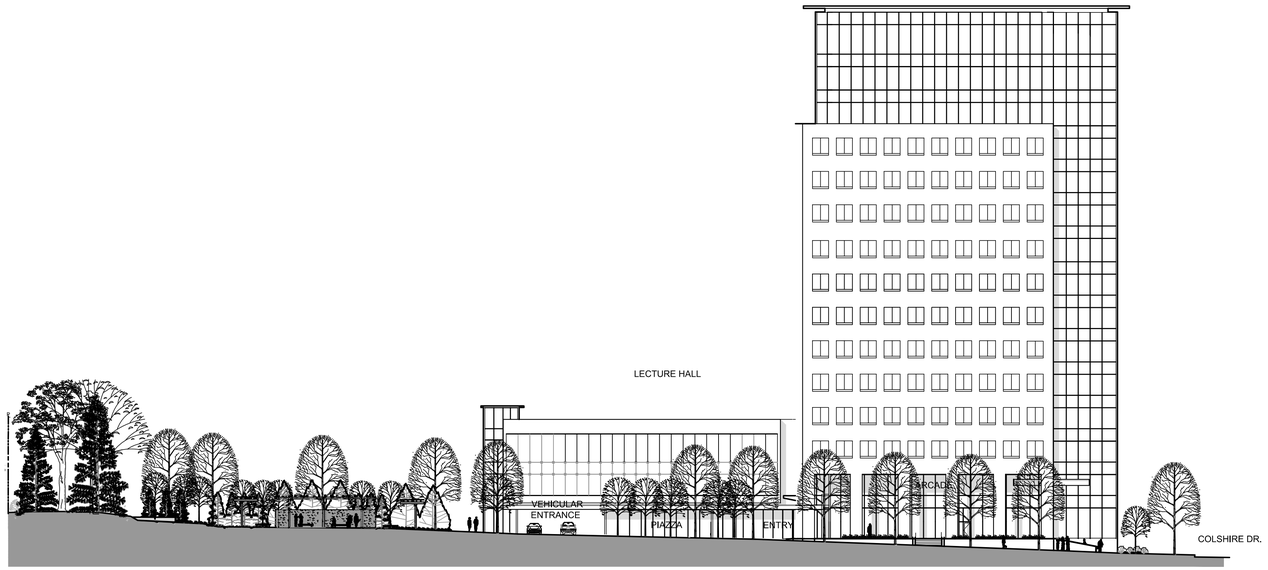
LANDSCAPE ARCHITECT

TITLE
STREETSCAPE PLANS AND SECTIONS

PROJECT
MITRE 4
FINAL DEVELOPMENT PLAN
FTP 2011-011-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA.

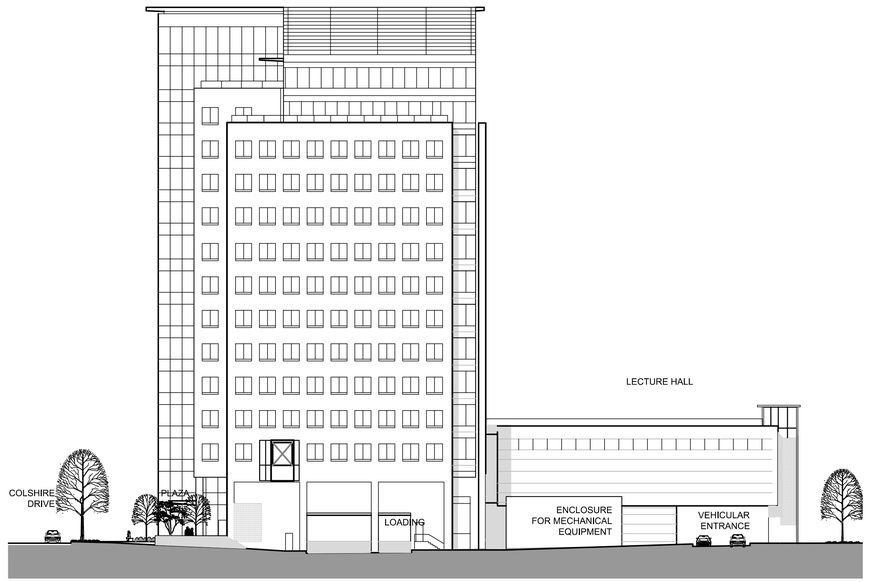
DESIGN	PHR+A	SURVEY	PHR+A
DRAWN	PHR+A	DATE	AUGUST 01, 2012
CHECKED	PHR+A	SCALE	AS SHOWN
FILE NO.	10022-1-9	CAT. NO.	
		SHEET	8 OF 20



1 NORTH ELEVATION

0' 15' 30' 60'

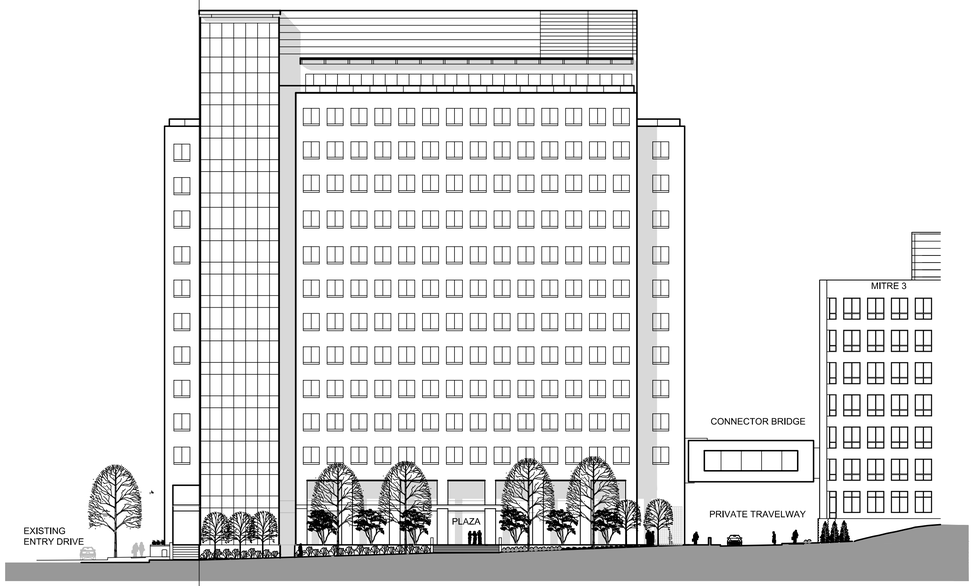
SCALE: 1"=30'-0"



2 SOUTH ELEVATION

0' 15' 30' 60'

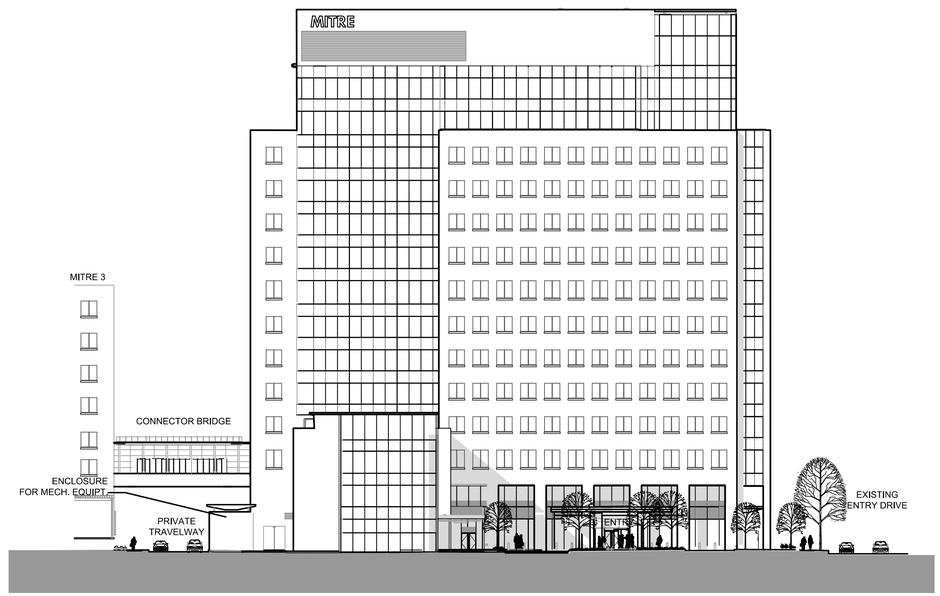
SCALE: 1"=30'-0"



3 WEST ELEVATION

0' 15' 30' 60'

SCALE: 1"=30'-0"



4 EAST ELEVATION

0' 15' 30' 60'

SCALE: 1"=30'-0"

NOTE: THESE ELEVATIONS SHOW THE INTENT, CHARACTER AND QUALITY OF THE PROPOSED DEVELOPMENT. FINAL DESIGN AND MATERIALS WILL BE DETERMINED PRIOR TO ISSUANCE OF BUILDING PERMIT.

COMMONWEALTH OF VIRGINIA
DAVID H. STEIGER
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03-25-2013
LANDSCAPE ARCHITECT

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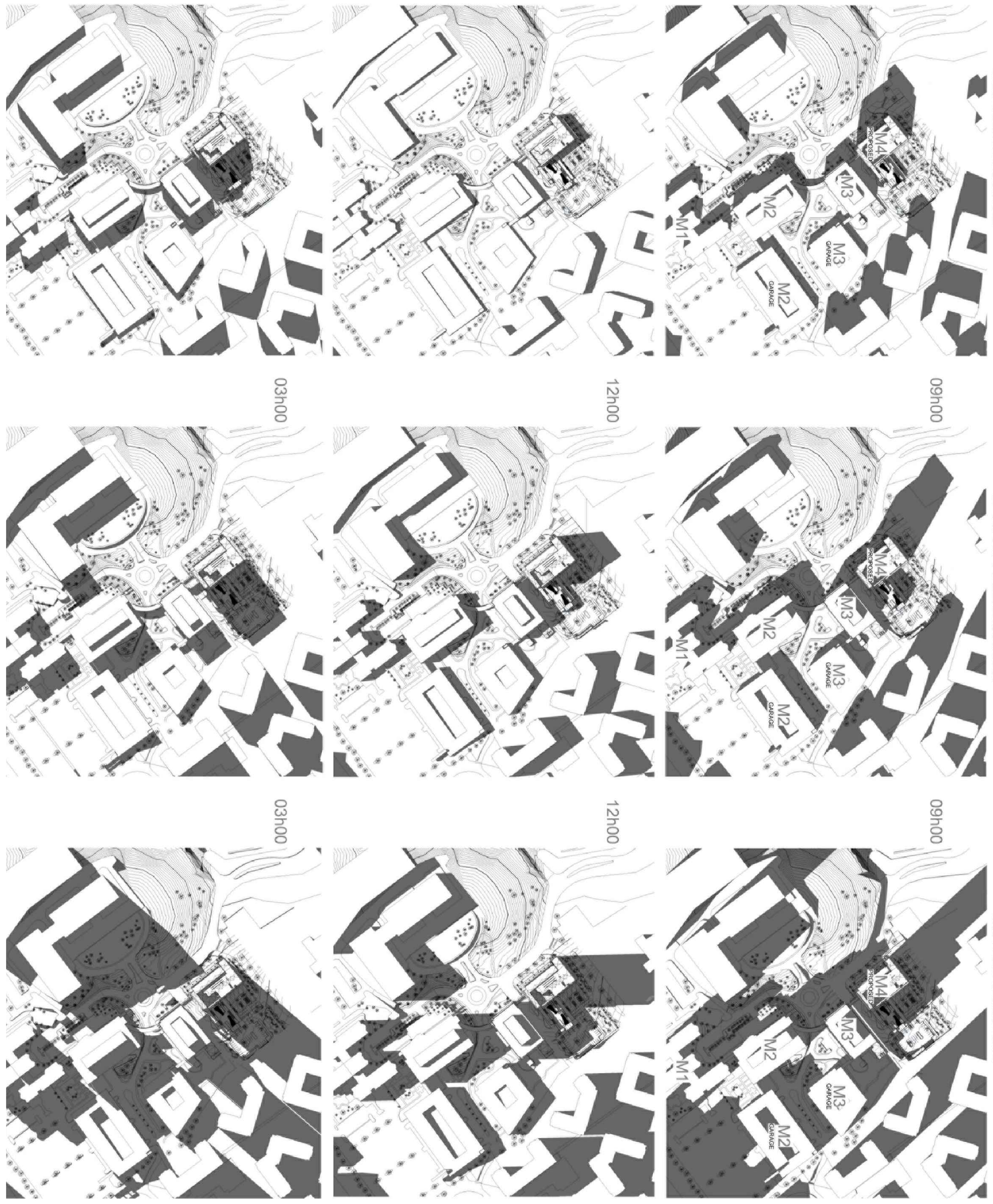
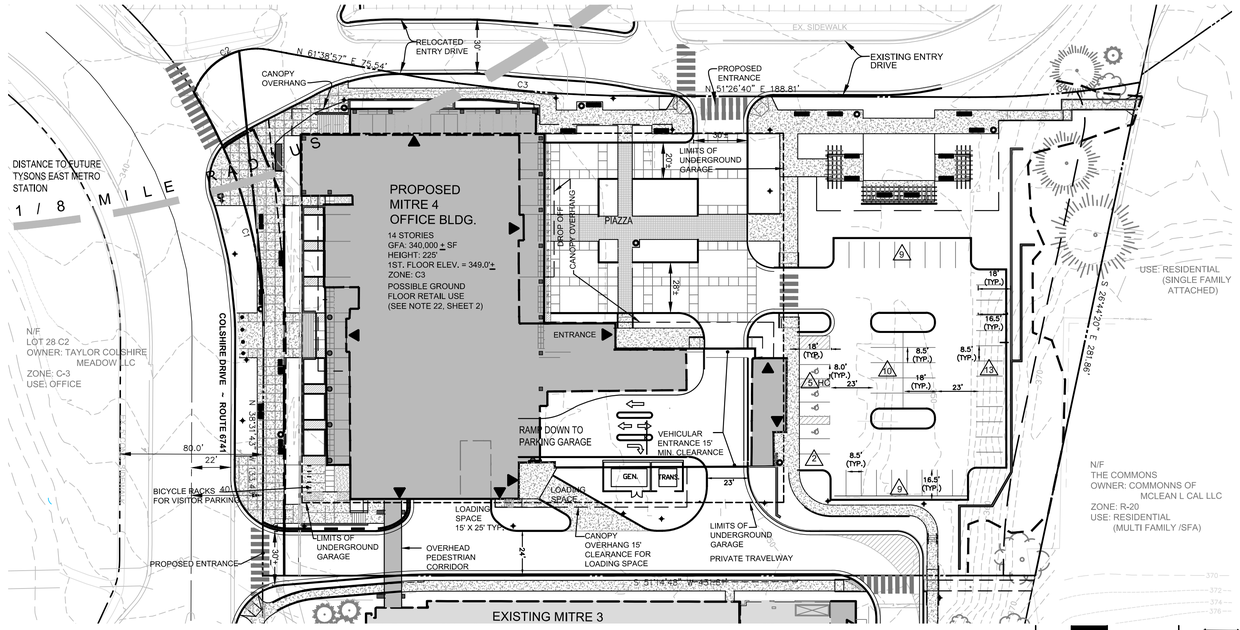
TITLE
BUILDING ELEVATIONS

PROJECT
MITRE 4
FINAL DEVELOPMENT PLAN
FTP 2011-011-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA.

DESIGN	PHR+A	SURVEY	PHR+A
DRAWN	PHR+A	DATE	AUGUST 01, 2012
CHECKED	PHR+A	SCALE	1" = 30'
FILE NO. 10022-1-9		CAT. NO.	
		SHEET	9 OF 20

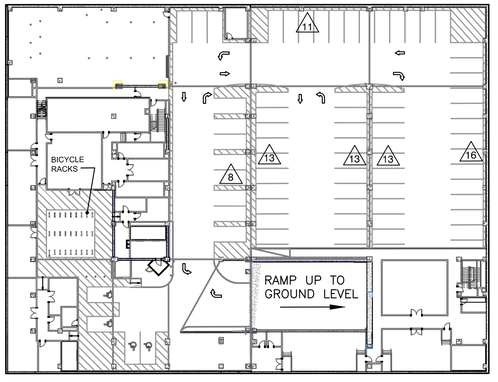


DESIGN PHR+A	SURVEY PHR+A	PROJECT		TITLE		
DRAWN PHR+A	DATE AUGUST 01, 2012	MITRE 4		SHADOW STUDY	Patton Harris Rust & Associates, Inc. Engineers. Surveyors. Planners. Landscape Architects.	COMMONWEALTH OF VIRGINIA DAVID H. STEIGLER Lic. No. 609 03-25-2013 LANDSCAPE ARCHITECT
CHECKED PHR+A	SCALE 1" = 200'	FINAL DEVELOPMENT PLAN			PHR+A 14532 Lee Road Chantilly, VA 20151-1679 T 703.449.6700 F 703.449.6714	
FILE NO. 10022-1-9 CAT. NO.	SHEET 10 OF 20	FTP 2011-011-02				
		PROVIDENCE DISTRICT FAIRFAX COUNTY, VA.				



GROUND LEVEL PARKING PLAN

SCALE: 1"=40'

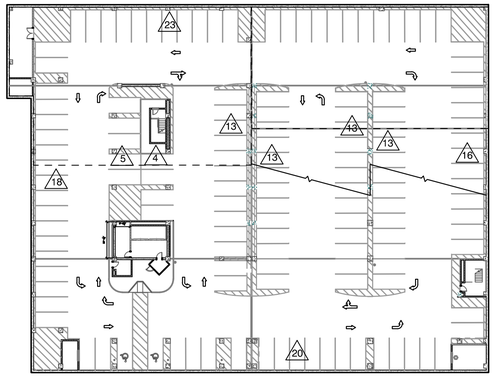


LEVEL ONE UNDERGROUND GARAGE PLAN

SCALE: 1"=40'

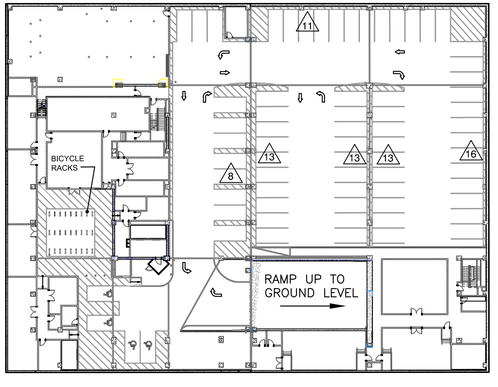
LEGEND

INDICATES NUMBER OF SPACES



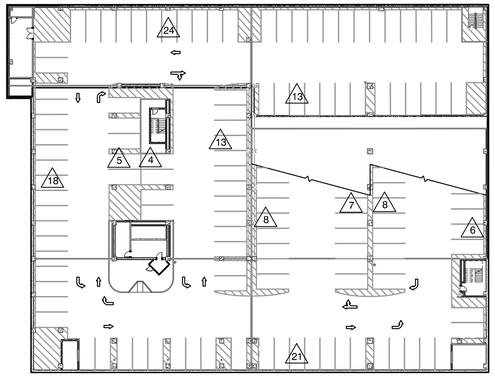
LEVEL TWO UNDERGROUND GARAGE PLAN

SCALE: 1"=40'



LEVEL THREE UNDERGROUND GARAGE PLAN

SCALE: 1"=40'



LEVEL FOUR UNDERGROUND GARAGE PLAN

SCALE: 1"=40'

NOTE: THESE PARKING PLANS SHOW THE INTENT, CHARACTER AND QUALITY OF THE PROPOSED DEVELOPMENT. FINAL DESIGN AND MATERIALS WILL BE DETERMINED PRIOR TO ISSUANCE OF BUILDING PERMIT.

MITRE 4 PARKING PLAN NARRATIVE

THE PURPOSE OF THIS PARKING PLAN IS TO PROVIDE INFORMATION REQUIRED FOR THE PROPOSED MITRE 4 BUILDING BY THE FAIRFAX COUNTY ZONING ORDINANCE. THE BUILDING LIES ADJACENT TO THE EXISTING MITRE CAMPUS ON COLSHIRE DRIVE.

1. THE PARKING PLAN IDENTIFIES THE NUMBER AND LOCATION OF PARKING AND LOADING SPACES FOR THE MITRE 4 BUILDING, ALONG WITH THE INGRESS AND EGRESS POINTS FROM CLOSHIRE DRIVE.
2. 506 PARKING SPACES ARE PROPOSED FOR THE MITRE 4 BUILDING, WHICH EQUATES TO A PARKING RATIO OF 1.49 SPACES PER 1,000 SQUARE FEET OF DEVELOPMENT. WITH DARTFORD DRIVE CONSTRUCTION, 15 SURFACE PARKING SPACES WILL BE LOST, RESULTING IN 491 TOTAL SPACES, OR 1.44 SPACES PER 1,000 SF OF DEVELOPMENT (SEE SHEET 7 FOR THIS SCENARIO). THIS FALLS WITHIN THE RANGE OF WHAT IS CURRENTLY APPROVED FOR THE SITE AND THE APPLICABLE MAXIMUM PARKING RATE SPECIFIED FOR THE PTC DISTRICT. THE APPLICANT RESERVES THE RIGHT TO ADJUST THE NUMBER OF PARKING SPACES PROVIDED UPWARDS OR DOWNWARDS BY 15 SPACES (THAT IS LESS THAN THREE (3) PERCENT) DEPENDING ON FINAL ENGINEERING, COLUMN SPACING, SIZE AND CAPACITY OF MECHANICAL EQUIPMENT AND OTHER SIMILAR REASONS.
3. A WAIVER IS REQUESTED WITH THE FINAL DEVELOPMENT PLAN FROM THE REQUIRED FIVE (5) LOADING SPACES FOR AN INDIVIDUAL BUILDING TO THE PROPOSED TWO (2) LOADING SPACES, WHICH ARE ADEQUATE TO SERVE THE PROPOSED MITRE 4 OFFICE USE.
4. THERE ARE NUMEROUS ALTERNATIVE MODES OF TRANSPORTATION OPTIONS IN THE VICINITY OF THE MITRE 4 BUILDING. IT IS WITHIN THE 1 /4 MILE RADIUS WALKING DISTANCE FROM TO THE TYSONS EAST METRORAIL STATION, ESTIMATED TO BE COMPLETED IN 2013 AND PRIOR TO THE COMPLETION OF MITRE 4 BUILDING. ENCOURAGEMENT OF NON SOV USE, NON-PEAK HOUR TRIPS, AND NON-AUTOMOBILE MODES WILL RESULT IN A REDUCTION IN THE NUMBER OF VECHICLE TRIPS GENERATED BY THE PROPOSED BUILDING. THE SITE IS CURRENTLY SERVED BY SEVERAL BUS ROUTES. METROBUS ROUTES 23A, 15L AND 15K ROUTES TRAVEL ALONG ROUTE 123 IN THE VICINITY OF THE SITE. THE 3T TRAVELS ALONG ROUTE 123, AS WELL AS ANDERSON ROAD AND MAGARITY ROAD. ACCORDING TO THE MAY 2008 FAIRFAX COUNTY BICYCLE MAP, BOTH ANDERSON ROAD AND MAGARITY ROAD ARE "PREFERRED ROADS" FOR BICYCLE ROUTES.
5. MITRE CURRENTLY HAS IN PLACE A SUCCESSFUL TDM PROGRAM FOR THE COLSHIRE DRIVE CAMPUS INCLUDING A TDM COORDINATOR, A SHUTTLE TO METRO, A WEBSITE DETAILING SHUTTLE INFORMATION AND DEPARTURE TIMES, DESIGNATED CARPOOL AND/OR VANPOOL PARKING SPACES, FLEXIBLE SCHEDULE / TELEWORK POLICIES, AS WELL AS SEVERAL ON-SITE AMENITIES (SUCH AS A CAFE, FITNESS CENTER, ATM MACHINE, ETC.). THE MITRE TDM PROGRAM HAS BEEN RECOGNIZED BY FAIRFAX COUNTY DEPARTMENT OF TRANSPORTATION TO BE CONSIDERED AS ONE OF THE "BEST WORKPLACES FOR COMMUTERS". THE MITRE 4 BUILDING WILL FORM AN EXTENSION TO THE MITRE CAMPUS AND WILL BENEFIT FROM THE TDM PROGRAMS PROVIDED.

MITRE 4 PARKING TABULATION

BUILDING	GROSS FLOOR AREA			REQUIRED MAXIMUM (1)					
	WITHIN 1/8 -1/4 MILE OF METRO	WITHIN 1/4 -1/2 MILE OF METRO	TOTAL	PARKING RATIO (PER 1,000 SF)	SPACES	GARAGE	SURFACE	TOTAL	PARKING RATIO (PER 1,000 SF)
MITRE 4 OFFICE(2)	340,000 SF	0 SF	340,000 SF	2.0	680	458	48 (3)	506 (3)	1.49 (3)

FOOTNOTE:

(1) REQUIRED MAXIMUM PARKING IN ACCORDANCE WITH SECTION 6-509.

(2) THE APPLICANT RESERVES THE RIGHT FOR A POTENTIAL CONVERSION OF UP TO 5,000 SF OF THE 340,000 SF OFFICE SPACE TO RETAIL, PERSONAL/BUSINESS SERVICES, FAST FOOD RESTAURANT, QUICK SERVICE FOOD STORE AND/OR EATING ESTABLISHMENT AS SHOWN ON THE FDP. PER ZONING ORDINANCE ARTICLE 6, SECTION 509 1. B. (1), UP TO 5,000 SF LOCATED ON THE GROUND LEVEL FOR THESE AFOREMENTED USES SHALL NOT BE INCLUDED IN THE REQUIRED PARKING CALCULATIONS.

(3) WITH DARTFORD DRIVE CONSTRUCTION, 15 SURFACE PARKING SPACES WILL BE LOST, RESULTING IN 491 TOTAL SPACES, OR 1.44 SPACES PER 1,000 SF OF DEVELOPMENT (SEE SHEET 7 FOR THIS SCENARIO).

COMMONWEALTH OF VIRGINIA
DAVID H. STEELER
Lic. No. 609
03-25-2013
LANDSCAPE ARCHITECT

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TITLE: PARKING PLAN

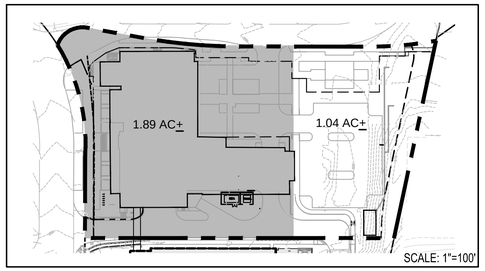
PROJECT: MITRE 4
FINAL DEVELOPMENT PLAN
FTP 2011-011-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA.

DESIGN	PHR+A	SURVEY	PHR+A
DRAWN	PHR+A	DATE	AUGUST 01, 2012
CHECKED	PHR+A	SCALE	1" = 40'
FILE NO.	10022-1-9	CAT. NO.	
		SHEET	11 OF 20

FILE NAME: P:\PROJECT\10022\1-9\Planning\Plans\P-11 PKG.dwg LAYOUT NAME: 2013-03 PLOTTED: Thursday, March 21, 2013 – 11:45am

MITRE 4

LOW IMPACT DEVELOPMENT (LID) PLAN NARRATIVE



PROPOSED LID PLAN BOUNDARY

PURPOSE/OVERVIEW:

IN ACCORDANCE WITH THE ENVIRONMENTAL STEWARDSHIP GUIDELINES WITHIN THE COUNTY'S COMPREHENSIVE MASTER PLAN FOR THE TYSONS CORNER URBAN CENTER, THE PROPOSED LOW IMPACT DEVELOPMENT (LID) PLAN FOR THE MITRE 4 APPLICATION REDUCES STORMWATER RUNOFF VOLUME BY METHODS THAT ARE MOST APPROPRIATE FOR THIS SITE. IT SHOULD BE NOTED THAT THE COUNTY'S STORMWATER MANAGEMENT AND BEST MANAGEMENT PRACTICE (BMP) REQUIREMENTS ENFORCED BY THE PUBLIC FACILITIES MANUAL ARE SATISFIED BY THE EXISTING WET POND CONSTRUCTED BEHIND THE EXISTING MCKINLEY BUILDING EAST OF THE SITE (REFER TO SHEETS 13-19). PRIOR TO REDEVELOPMENT, THE RUNOFF FROM THE SITE CONVEYS DIRECTLY INTO SCOTT RUN WITHOUT CONTROL. THE REDEVELOPMENT OF THIS SITE CAPTURES THE FIRST INCH OF RAIN WATER FROM THE BUILDING ROOF AND PORTIONS OF THE SITE AND REUSES IT FOR THE BUILDING'S COOLING TOWER AND THROUGH THE USE OF PLANTER BEDS AND EVAPOTRANSPORATION THROUGH PLANTS.

LID PLAN AREA:

THE PROPOSED MITRE 4 OFFICE BUILDING IS THE FIRST PHASE OF DEVELOPMENT FOR THIS SITE. AT THIS TIME, A SECOND OFFICE BUILDING IS PLANNED IN THE EASTERN PORTION OF THIS SITE, WHICH WILL REQUIRE A SEPARATE REZONING APPLICATION FOR THE SITE. THE MITRE 4 PORTION OF THE SITE IS APPROXIMATELY 82,500 S.F.(1.89 ACRES), AS SHOWN ON THE PLANS FOUND ON THIS SHEET. COMPUTATIONS PROVIDED FOR THE MITRE 4 LID PLAN BELOW REFLECT THIS FIRST PHASE AREA OF THE SITE ONLY.

FOR THE PROPOSED INTERIM POCKET PARK AND SURFACE PARKING LOT IMPROVEMENTS THAT ARE WITHIN THE FUTURE PHASE (OUTSIDE THE LID PLAN BOUNDARIES), PERVIOUS PAVERS ARE PROPOSED TO PROVIDE AN INTERIM LID SOLUTION FOR THESE IMPROVEMENTS. EVEN THOUGH THE SOILS DO NOT APPEAR TO HAVE GOOD INFILTRATION RATES, SOME STORM WATER BENEFIT WILL OCCUR THROUGH THE PERVIOUS PAVERS AND BASE AGGREGATE THAT WARRANTS THEIR USE.

PROPOSED PROGRAM:

THE SITE'S FIRST INCH OF RAINFALL IS CAPTURED BY THE BUILDING'S ROOF AND THE PLANTING BEDS. RAIN WATER FROM THE BUILDING ROOF IS CAPTURED, FILTERED AND CONVEYED TO AN UNDERGROUND STORAGE FACILITY (CISTERN(S)). TO COMPENSATE FOR SITE AREAS THAT ARE NOT CAPTURED (GENERALLY THESE ARE THE STREETSCAPES AND THE LOADING/SERVICE DRIVE LOCATED ALONG THE SOUTHERN BOUNDARY OF THE SITE), THE ROOF RAIN WATER STORAGE HAS BEEN OVERSIZED FOR EXTRA CAPACITY.

ROOF RAIN WATER CAPTURE AND WATER HARVESTING: THE ROOF AREAS CAN CAPTURE APPROXIMATELY 0.87 AC. (38,100 S.F.) OF THE SITE. THIS RESULTS IN APPROXIMATELY 3,162 C.F. OF WATER FOR THE FIRST INCH OF RAINFALL (38,100 S.F. * 0.083 FT.). APPROXIMATELY 0.61 AC. (29,498 S.F.) OF THE SITE CAN NOT BE CAPTURED OR USED FOR WATER HARVESTING. APPROXIMATELY 78% OF THIS AREA IS IMPERVIOUS, RESULTING IN APPROXIMATELY 1,722 C.F. FOR THE FIRST INCH OF RAINFALL (29,498 S.F. * 0.78 * 0.083 FT.). THE TOTAL STORAGE PROVIDED FOR WATER HARVESTING INCLUDES BOTH VOLUMES, APPROXIMATELY 4,884 C.F. (3,162 C.F. + 1,722 C.F.).

THE PROPOSED BUILDING'S COOLING TOWER REQUIRES MAKE-UP WATER FOR ITS CONDENSERS. THE DEMANDS FOR MAKE-UP WATER ARE YEAR ROUND DUE TO THE AIR CONDITIONING REQUIREMENTS FOR THE LABS, SERVER ROOMS AND OTHER MISSION CRITICAL SPACES THAT NEED TO BE CONDITIONED 24 HOURS A DAY, 7 DAYS A WEEK, 365 DAYS A YEAR. IN ADDITION, COMFORT COOLING FOR OFFICE SPACES, CONFERENCE ROOMS, AND THE LIKE IS REQUIRED YEAR ROUND, BUT IN HIGHER DEMAND IN THE HOTTER MONTHS. WHEN AVAILABLE, CAPTURED RAIN WATER WILL BE USED FOR THE COOLING TOWER'S MAKE-UP WATER.

WE REVIEWED THE MONTHS OF THE YEAR THAT RESULT IN THE LOWEST MAKE-UP WATER REUSE DEMANDS AND THE MOST RAIN FALL AS RECORDED FROM DULLES AIRPORT (SLIGHTLY HIGHER THAN REAGAN NATIONAL AIRPORT). JANUARY HAS THE LOWEST COOLING TOWER DEMAND WHICH IS APPROXIMATELY 2,073 C.F. PER DAY. IF THE ENTIRE STORAGE FACILITY IS FULL (4,884 C.F.), IT WOULD TAKE APPROXIMATELY 2.4 DAYS TO EMPTY THE TANK THUS MAKING ROOM FOR A NEW STORM EVENT (4,884 C.F./2,861 C.F. PER DAY). MAY HAS THE HIGHEST PRECIPITATION AND COOLING TOWER DEMAND, APPROXIMATELY 2,861 C.F. PER DAY, RESULTING IN ROUGHLY A 1.7 DAY CYCLE TO EMPTY THE STORAGE (4,884 C.F./2,861 C.F. PER DAY.)

PLANTERS AND PLANTING WELLS CAPTURE RAIN WATER FOR VOLUME REDUCTION THROUGHOUT THE SITE, BUT ARE QUANTIFIED IN TWO LOCATIONS:

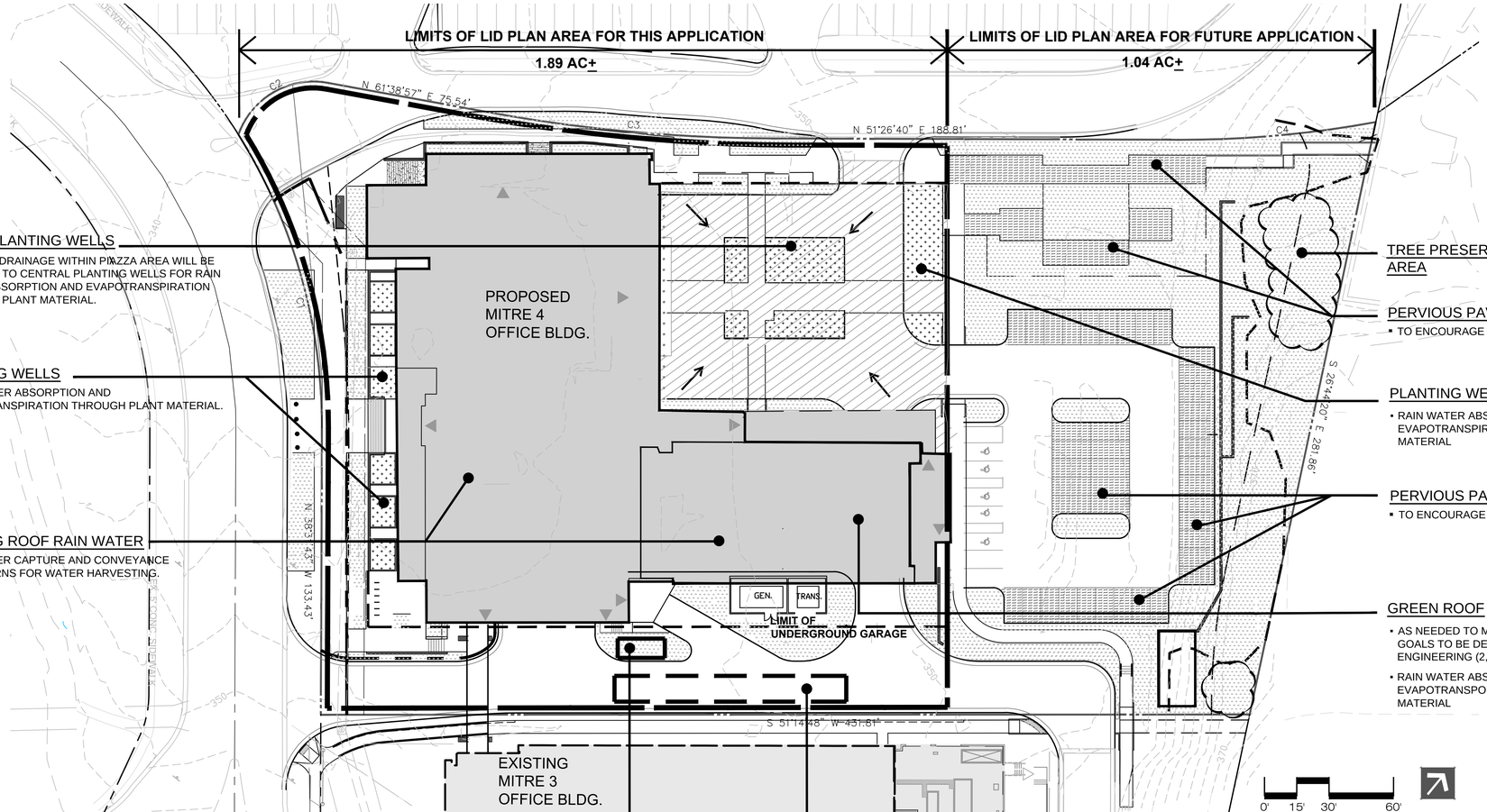
1. TREE WELLS IN THE **PIAZZA AREA**, AND
2. TREE WELL PLANTERS ADJACENT TO THE BUILDINGS ARCADE THAT FRONTS **COLSHIRE DRIVE**.

PIAZZA AREA: SURFACE DRAINAGE FROM THE PIAZZA AREA IS DESIGNED TO BE DIRECTED TO THE CENTRAL TREE WELLS. THE FIRST INCH OF RAINFALL FOR THIS AREAS IS APPROXIMATELY 1,372 C.F. (16,553 SF+/- * 0.083 FT.). THE PROPOSED PLANTING MEDIUM (SOIL) HAS 40% VOIDS. WHEN SATURATED AFTER A RAINFALL, ONE HALF OF THE VOIDS, OR APPROXIMATELY 20% OF THE TOTAL SOIL VOLUME, TYPICALLY RETAINS WATER. THE WATER IS LOST THROUGH PLANT EVAPOTRANSPORATION AND SURFACE EVAPORATION. TO CAPTURE THE FIRST INCH OF RAIN FALL, APPROXIMATELY 6,800 C.F. OF PLANTING MEDIUM IS REQUIRED. BASED ON THE PRELIMINARY ARCHITECTURAL DESIGN OF THE PIAZZA PLANTING WELLS, THIS VOLUME OF PLANTING MEDIUM CAN BE ACCOMMODATED. ADDITIONAL PLANTING WELLS ARE LOCATED AROUND THE PERIPHERY OF THE PIAZZA AREA. THESE PLANTERS DO NOT HAVE CONTRIBUTING DRAINAGE AREAS OTHER THAN THE RAIN FALLING ON THEM. CONSEQUENTLY, THEY WILL ADEQUATELY STORE AND LOSE THEIR FIRST ONE INCH OF RAINFALL.

COLSHIRE DRIVE PLANTERS: SIX PLANTING WELLS ARE PROPOSED ADJACENT TO THE BUILDING'S ARCADE FACING COLSHIRE DRIVE. THE AREA DRAINING TO THESE PLANTERS IS APPROXIMATELY 1,380 S.F... THE FIRST INCH RESULTS IN APPROXIMATELY 115 C.F. OF RAINFALL. TO CAPTURE THE FIRST INCH OF RAIN FALL, APPROXIMATELY 575 C.F. OF PLANTING MEDIUM IS REQUIRED. BASED ON THE PRELIMINARY ARCHITECTURAL DESIGN OF THESE PLANTING WELLS, THIS VOLUME OF PLANTING MEDIUM CAN BE ACCOMMODATED.

ADDITIONAL PLANTERS ARE PROPOSED THROUGHOUT THE PROJECT. FOR THE PURPOSES OF THIS LID PROGRAM, THE BENEFITS OF THESE ADDITIONAL PLANTERS ARE NOT QUANTIFIED AT THIS TIME.

LEED CREDIT 6.1 AND 6.2 COMPLIANCE: THE STORMWATER VOLUME REDUCTION FROM THE CAPTURE AND REUSE OF THE FIRST INCH OF RAIN FALL IS SUFFICIENT TO MEET THE LEED CREDIT 6.1 STORMWATER DESIGN-QUANTITY CONTROL CRITERIA AND LEED CREDIT 6.2 STORMWATER DESIGN -WATER QUALITY CRITERIA. HOWEVER, IN ORDER TO INCREASE THE SITES WATER QUALITY MEASURES, AN ADDITIONAL WATER QUALITY FILTERING DEVISE IS PROPOSED TO TREAT THE RUN-OFF FROM THE LOADING DOCK/SERVICE DRIVE AREA.



PIAZZA PLANTING WELLS
- SURFACE DRAINAGE WITHIN PIAZZA AREA WILL BE DIRECTED TO CENTRAL PLANTING WELLS FOR RAIN WATER ABSORPTION AND EVAPOTRANSPIRATION THROUGH PLANT MATERIAL.

PLANTING WELLS
- RAIN WATER ABSORPTION AND EVAPOTRANSPIRATION THROUGH PLANT MATERIAL.

BUILDING ROOF RAIN WATER
- RAIN WATER CAPTURE AND CONVEYANCE TO CISTERNS FOR WATER HARVESTING.

CISTERNS
- FOR WATER HARVESTING

WATER QUALITY FILTERING DEVICE
- TO TREAT RUN-OFF FROM LOADING / SERVICE DRIVE AREA.

TREE PRESERVATION AREA

PERVIOUS PAVER SIDEWALKS
- TO ENCOURAGE RAIN WATER INFILTRATION.

PLANTING WELLS
- RAIN WATER ABSORPTION AND EVAPOTRANSPIRATION THROUGH PLANT MATERIAL

PERVIOUS PAVING PARKING SPACES
- TO ENCOURAGE RAIN WATER INFILTRATION.

GREEN ROOF
- AS NEEDED TO MEET WATER HARVESTING GOALS TO BE DETERMINED DURING FINAL ENGINEERING (2,340 SF MINIMUM)
- RAIN WATER ABSORBTION AND EVAPOTRANSPORATION THROUGH PLANT MATERIAL

LEGEND
- PERVIOUS PAVERS
- PERVIOUS LANDSCAPE AREA
- PLANTING WELLS
- BUILDING ROOF RAIN WATER

NOTES:

1. THE FACILITIES AND PRELIMINARY COMPUTATIONS SHOWN ARE INTENDED TO ACKNOWLEDGE AND SUPPORT THE COMPREHENSIVE PLAN'S INITIATIVES WITH REGARDS TO ENHANCED STORM WATER MANAGEMENT AND LID TECHNIQUES TO BE SHOWN ON THE FINAL ENGINEERING SITE PLAN. DURING THE PREPARATION OF THE FINAL SITE PLAN, EXACT LOCATIONS, SIZES AND FACILITIES MAY CHANGE AS LONG AS THEY MAXIMIZE THE POTENTIAL TO ACHIEVE THE GOALS OF THE COMPREHENSIVE PLAN.

2. THIS SHEET SHALL BE USED AS SUPPLEMENTAL PURPOSES ONLY TO THE FINAL STORM WATER MANAGEMENT DESIGN PROPOSED WITH THE FINAL SITE PLAN.

COMMONWEALTH OF VIRGINIA — DAVID H. STREIGLER — Lic. No. 609 — 03-25-2013 — LANDSCAPE ARCHITECT

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TITLE: LOW IMPACT DEVELOPMENT PLAN

PROJECT: MITRE 4
FINAL DEVELOPMENT PLAN
FTP 2011-011-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA.

DESIGN PHR+A	SURVEY PHR+A		
DRAWN PHR+A	DATE AUGUST 01, 2012		
CHECKED PHR+A	SCALE 1" = 30'	SHEET 12 OF 20	
FILE NO. 10022-1-9	CAT. NO.		

FILE NAME: P:\PROJECT\10022\1-9\Planning\Plans\P-12 LID.dwg LAYOUT NAME: 2013-03 PLOTTED: Thursday, March 21, 2013 - 11:52am

STORMWATER MANAGEMENT NARRATIVE

STORMWATER MANAGEMENT (DETENTION) REQUIREMENTS FOR THE SUBJECT SITE ARE CURRENTLY SATISFIED VIA AN EXSITING OFFSITE POND WHICH IS LOCATED APPROXIMATELY 850 FEET SOUTH OF THE SUBJECT SITE. THE POND WAS DESIGNED AND CONSTRUCTED PER FAIRFAX COUNTY PLAN #1702-SP-005-2, APPROVED 4/23/1999, COMPLETED 5/21/2003, AND IS ENTITLED "MCKINLEY BUILDING SITE SWM FACILITY AT WESTGATE". THE SUBJECT SITE IS LOCATED WITHIN THE AREA ACCOUNTED FOR BY THE OVERALL DRAINAGE PLAN FOR THE MCKINLEY SWM FACILITY (SEE SHEET 17, INCLUDED WITH THIS SUBMISSION FOR INFORMATION ONLY). IDENTIFIED AS "SITE 3" IN "SUB AREA A" OF THE RUNOFF COMPUTATIONS, THE PLAN ASSUMES THE SUBJECT SITE TO BE DEVELOPED, AND RUNOFF FROM THE SITE IS UNCONTROLLED. ALTHOUGH THE RUNOFF FROM THE SUBJECT SITE DOES NOT DIRECTLY OUTFALL INTO THE SWM FACILITY, THE RUNOFF FLOWS GENERATED BY THE SITE ARE INCLUDED IN THE ALLOWABLE DISCHARGE COMPUTATIONS FOR THE POND. SCS HYDROLOGY WAS UTILIZED IN THE DESIGN COMPUTATIONS FOR THE POND, WITH THE ENTIRE JOHNSON II SITE BEING ANALYZED AS AN URBAN DISTRICT - COMMERCIAL AND BUSINESS, AT 85% AVERAGE IMPERVIOUSNESS WITH BOTH TYPE B AND C SOILS. THEREFORE, AS LONG AS THE AVERAGE IMPERVIOUSNESS OF THE JOHNSON II SITE REMAINS BELOW 85% IMPERVIOUSNESS, THE EXISTING MCKINLEY SWM POND SATISFIES THE SWM DETENTION REQUIREMENTS FOR THE SUBJECT SITE. AS THE PERVIOUS AREA ANALYSIS ON SHEET 19 DEMONSTRATES, THE PROPOSED IMPERVIOUS AREA IS 75%, WHICH IS LESS THAN 85%. ADDITIONAL PLAN SHEETS FROM COUNTY PLAN #1702-SP-005-2 HAVE BEEN INCLUDED WITH THIS SUBMISSION TO PROVIDE ADDITIONAL INFORMATION ON THE DESIGN OF THE MCKINLEY SWM FACILITY. SEE SHEETS 14-19.

BMP NARRATIVE

BEST MANAGEMENT PRACTICES (WATER QUALITY) REQUIREMENTS FOR THE SUBJECT SITE ARE CURRENTLY SATISFIED VIA AN EXISTING OFFSITE POND WHICH IS LOCATED APPROXIMATELY 850 FEET SOUTH OF THE SUBJECT SITE. THE POND WAS DESIGNED AND CONSTRUCTED PER FAIRFAX COUNTY PLAN #1702-SP-005-2, APPROVED 4/23/1999, COMPLETED 5/21/2003, AND IS ENTITLED "MCKINLEY BUILDING SITE SWM FACILITY AT WESTGATE".

ALTHOUGH RUNOFF FROM THE SITE DOES NOT DIRECTLY OUTFALL INTO THE SWM FACILITY, THIS SITE CONDITION IS UTILIZED IN THE BMP CALCULATIONS SHOWING THE OVERALL DRAINAGE AREA IS IN CONFORMANCE WITH FAIRFAX COUNTY AND CHESAPEAKE BAY PRESERVATION AREA REQUIREMENTS. THE MCKINLEY SWM FACILITY IS A WET POND (PROVIDING FOUR TIMES THE VOLUME OF RUNOFF FROM THE MEAN STORM) WITH DRY EXTENDED STORAGE PROVIDED ABOVE THE PERMANENT POOL ELEVATION. THIS DESIGN ALLOWED FOR THE UTILIZATION OF A 50% PHOSPHOROUS REMOVAL EFFICIENCY RATE IN THE DESIGN COMPUTATIONS. SINCE THIS SITE IS UNCONTROLLED, BMP IS PROVIDED VIA "CREDIT" OBTAINED BY THE TREATMENT OF THOSE AREAS WHICH DO DRAIN TO THE POND AT A HIGHER PHOSPHOROUS REMOVAL RATE THAN REQUIRED. THE SUBJECT SITE IS LOCATED WITHIN THE AREA COVERED BY THE OVERALL DRAINAGE PLAN FOR THE MCKINLEY SWM FACILITY (SEE SHEET 18, INCLUDED WITH THIS SUBMISSION FOR INFORMATION ONLY). IDENTIFIED AS "SUB AREA 8" (FUTURE JOHNSON I AND II) OF THE BMP COMPUTATIONS. THE PLAN ASSUMES THE SITE IS TO BE REDEVELOPED, AND RUNOFF FROM THE SITE IS UNCONTROLLED. THE JOHNSON II SITE IS ASSUMED TO HAVE AN EXISTING C-VALUE OF 0.71 WITH A REDEVELOPED C-VALUE OF 0.80 AND A REQUIRED PHOSPHOROUS REMOVAL EFFICIENCY OF 20.125%.

THE BMP REQUIREMENT COMPUTATIONS FOR THE JOHNSON I AND JOHNSON II SITES SHOWN ON SHEET 19 ARE BASED ON THE PFM'S (IN EFFECT IN 1999) REDEVELOPMENT EQUATION WHICH USED C(PRE) AND C(POST). THE TOTAL REQUIRED PHOSPHOROUS REMOVAL UNDER THAT METHODOLOGY IS SHOWN TO BE 27.17%. THE CURRENT REDEVELOPMENT FORMULA (PFM SECTION 6-401.2B) UTILIZES I(PRE) AND I(POST), WHERE "I" IS THE PERCENT IMPERVIOUS, AS OPPOSED TO C-FACTOR. THE REDEVELOPMENT COMPUTATIONS HAVE BEEN REVISED (SEE SHEET 19) TO REFLECT THE USE OF "I" INSTEAD OF "C". FOR THE JOHNSON I AND JOHNSON II SITES, AN IMPERVIOUS AREA ANALYSIS WAS PERFORMED. THE EXHIBITS ON SHEET 19 SHOW THAT THE EXISTING IMPERVIOUS PERCENTAGE FOR JOHNSON I AND II IS 55%. THE PROPOSED IMPERVIOUS PERCENTAGE FOR THE JOHNSON I AND II SITES IS BASED UPON THE FUTURE PROPOSED REDEVELOPMENT ON THE JOHNSON II (SUBJECT) SITE AND IS 58% IMPERVIOUS. USING I(PRE) OF 55% AND I(POST) OF 58% DECREASES THE REQUIRED PHOSPHOROUS REMOVAL PERCENTAGE FOR THE JOHNSON I AND II SITES FROM 6.89% TO 4.04%. THIS CHANGES THE TOTAL REQUIRED PHOSPHOROUS REMOVAL PERCENTAGE FROM 27.17% TO 25.08%. SINCE THE ACTUAL PHOSPHOROUS REMOVAL PERCENTAGE PROVIDED BY THE MCKINLEY POND IS 27.43% (>25.08%), THE SITE WILL BE IN CONFORMANCE WITH THE MCKINLEY SWM FACILITY DESIGN AND ADEQUATE WATER QUALITY CONTROL REQUIREMENTS SET FORTH BY FAIRFAX COUNTY.

IT IS THE OPINION OF PHR+A THAT BMP REQUIREMENTS HAVE BEEN SATISFIED AND ARE IN COMPLIANCE WITH THE COUNTY REGULATIONS AND PROFFER CONDITIONS. ADDITIONAL PLAN SHEETS FROM THE #1702-SP-005-2 HAVE BEEN INCLUDED WITH THIS SUBMISSION TO PROVIDE ADDITIONAL INFORMATION ON THE DESIGN OF THE MCKINLEY SWM FACILITY. SEE SHEETS 14-20.

MINIMUM STORMWATER INFORMATION FOR REZONING, SPECIAL EXCEPTION, SPECIAL PERMIT AND DEVELOPMENT PLAN APPLICATIONS

THE FOLLOWING INFORMATION IS REQUIRED TO BE SHOWN OR PROVIDED IN ALL ZONING APPLICATIONS, OR A WAIVER REQUEST OF THE SUBMISSION REQUIREMENT WITH JUSTIFICATION SHALL BE ATTACHED. NOTE: WAIVERS WILL BE ACTED UPON SEPARATELY. FAILURE TO ADEQUATELY ADDRESS THE REQUIRED SUBMISSION INFORMATION MAY RESULT IN A DELAY IN PROCESSING THIS APPLICATION.

THIS INFORMATION IS REQUIRED UNDER THE FOLLOWING ZONING ORDINANCE PARAGRAPHS:

SPECIAL PERMITS (8-011 2J & 2L) — SPECIAL EXCEPTIONS (9-011 2J & 2L)
CLUSTER SUBDIVISION (9-615 1G & 1N) — COMMERCIAL REVITALIZATION DISTRICTS (9-622 2A (12)&(14))
DEVELOPMENT PLANS PRC DISTRICT (16-302 2 & 4L) — PRC PLAN (16-303 1E & 1Q)
FDP - P DISTRICTS (EXCEPT PRC) 916-502 1F & 1Q) — AMENDMENTS (18-202 10F & 10I)

☑ 1. PLAT IS AT A MINIMUM SCALE OF 1"=50' (UNLESS IT IS DEPICTED ON ONE SHEET WITH A MINIMUM SCALE OF 1"=100).

☑ 2. A GRAPHIC DEPICTING THE STORMWATER MANAGEMENT FACILITY(IES) AND LIMITS OF CLEARING AND GRADING TO ACCOMMODATE THE STORMWATER MANAGEMENT FACILITY(IES), STORM DRAINAGE PIPE SYSTEMS AND OUTLET PROTECTION, POND SPILLWAYS, ACCESS ROADS, SITE OUTFALLS, ENERGY DISSIPATION DEVICES, AND STREAM STABILIZATION MEASURES AS SHOWN ON SHEET 15

☑ 3. PROVIDE:

FACILITY NAME/ TYPE & NO.	ON-SITE AREA SERVED (ACRES)	OFF-SITE AREA SERVED (ACRES)	DRAINAGE AREA (ACRES)	FOOTPRINT AREA (SF.)	STORAGE VOLUME (CF.)	IF POND, DAM HEIGHT (FT.)
(E.G., DRY POND A. INFLT. TRENCH, UNDERGROUND VAULT, ETC.)						
EX WET POND (SEE SHEETS 14-18 FOR DESIGN INFO)						
TOTALS						

☑ 4. ONSITE DRAINAGE CHANNELS, OUTFALLS AND PIPE SYSTEMS ARE SHOWN ON SHEET 20. POND INLET AND OUTLET PIPE SYSTEMS ARE SHOWN ON SHEET 15.

☑ 5. MAINTENANCE ACCESSES (ROAD) TO STORMWATER MANAGEMENT FACILITY(IES) ARE SHOWN ON SHEET 15. TYPE OF MAINTENANCE ACCESS ROAD SURFACE NOTED ON THE PLAT IS GRAVEL (ASPHALT, GEOBLOCK, GRAVEL, ETC.)

☒ 6. LANDSCAPING AND TREE PRESERVATION SHOWN IN AND NEAR THE STORMWATER MANAGEMENT FACILITY IS SHOWN ON SHEET N/A.

☑ 7. A "STORMWATER MANAGEMENT NARRATIVE" WHICH CONTAINS A DESCRIPTION OF HOW DETENTION AND BEST MANAGEMENT PRACTICES REQUIREMENTS WILL BE MET IS PROVIDED ON SHEET 13.

☑ 8. A DESCRIPTION OF THE EXISTING CONDITIONS OF EACH NUMBERED SITE OUTFALL EXTENDED DOWNSTREAM FROM THE SITE TO A POINT WHICH IS AT LEAST 100 TIMES THE SITE AREA OR WHICH HAS A DRAINAGE AREA OF AT LEAST ONE SQUARE MILE (640 ACRES) IS PROVIDED ON SHEET 20.

☑ 9. A DESCRIPTION OF HOW THE OUTFALL REQUIREMENTS, INCLUDING KNOWN CHANGES TO CONTRIBUTING DRAINAGE AREAS (I.E. DRAINAGE DIVERSIONS), OF THE PUBLIC FACILITIES MANUAL WILL BE SATISFIED IS PROVIDED ON SHEET 19.

☑ 10. EXISTING TOPOGRAPHY WITH MAXIMUM CONTOUR INTERVALS OF TWO (2) FEET AND A NOTE AS TO WHETHER IT IS AN AIR SURVEY OR FIELD RUN IS PROVIDED ON SHEETS 3.

☒ 11. A SUBMISSION WAIVER IS REQUESTED FOR N/A.

☒ 12. STORMWATER MANAGEMENT IS NOT REQUIRED BECAUSE N/A.

REVISED 2-21-2006

Patton Harris Rust & Associates, Inc.
Engineers. Surveyors. Planners. Landscape Architects.
14532 Lee Road
Chantilly, VA 20151-1679
T 703.449.6700
F 703.449.6714

COMMONWEALTH OF VIRGINIA — DAVID H. STREGER — Lic. No. 609 — 03-25-2013 — LANDSCAPE ARCHITECT

TITLE: STORMWATER MANAGEMENT NARRATIVE AND CHECKLIST

PROJECT: MITRE 4
FINAL DEVELOPMENT PLAN
FTP 2011-011-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA.

DESIGN	PHR+A	SURVEY	PHR+A
DRAWN	PHR+A	DATE	AUGUST 01, 2012
CHECKED	PHR+A	SCALE	N/A
FILE NO. 10022-1-9		CAT. NO.	SHEET 13 OF 20

FILE NAME: P:\PROJECT\10022\1-9\Planning\Plans\P-13 SWM-NAR.dwg LAYOUT NAME: 2013-03 PLOTTED: Thursday, March 21, 2013 - 11:54am

P:\PROJECT\10022\1-9\Planning\Plans\P-13 SWM-NAR.dwg

FOR INFORMATION ONLY!

NOTES/CONDITIONS:

1. THE APPROVAL OF THESE PLANS SHALL IN NO WAY RELIEVE THE DEVELOPER OR HIS AGENT OF ANY LEGAL RESPONSIBILITIES WHICH MAY BE REQUIRED BY THE CODE OF VIRGINIA OR ANY ORDINANCE ENACTED BY THE COUNTY OF FAIRFAX.
2. THE DESIGN, CONSTRUCTION, FIELD PRACTICES, AND METHODS SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE FAIRFAX COUNTY CODE AND IN THE PUBLIC FACILITIES MANUAL AS AMENDED. FAILURE TO COMPLY WITH THE FAIRFAX COUNTY CODE, THE PUBLIC FACILITIES MANUAL, THE APPROVED PLANS, THE PROVISIONS OF THE CONSTRUCTION AND ESCROW AGREEMENT PERMIT SHALL BE DEEMED A VIOLATION. THIS PLAN IS SUBJECT TO PROVISIONS OF THE CURRENT PUBLIC FACILITIES MANUAL.
3. WATER DISTRIBUTION NOTE:

   ALL FIRE PROTECTION SYSTEMS WHICH ARE INSTALLED IN COMPLIANCE WITH THESE PLANS AND COUNTY OF FAIRFAX ORDINANCES SHALL BE MAINTAINED IN AN OPERATIVE CONDITION AT ALL TIMES. WHEN NECESSARY TO TEMPORARILY REDUCE OR DISCONTINUE THE PROTECTION IN ORDER TO MAKE TESTS, REPAIRS, ALTERATIONS OR ADDITIONS, NOTIFY THE FAIRFAX COUNTY PUBLIC SAFETY COMMUNICATIONS CENTER AT 691-2131.
4. A PERMIT MUST BE OBTAINED FROM THE OFFICE OF THE RESIDENT ENGINEER, VIRGINIA DEPARTMENT OF TRANSPORTATION, FAIRFAX, VIRGINIA BEFORE ANY CONSTRUCTION IS STARTED ON ANY EXISTING STATE ROUTE.
5. NOTICE REQUIRED:

   CONTRACTORS SHALL NOTIFY THE "MISS UTILITY" NOTIFICATION CENTER OF PROPOSED EXCAVATION, DEMOLITION, OR BLASTING AT LEAST TWO WORKING DAYS PRIOR TO COMMENCEMENT OF EXCAVATION DEMOLITION, OR BLASTING IN ACCORDANCE WITH THE VIRGINIA UNDERGROUND UTILITY DAMAGE PREVENTATION ACT. IN ADDITION, NAMES AND TELEPHONE NUMBERS SHALL ALSO BE USED TO SERVE IN AN EMERGENCY CONDITION AS REQUIRED BY SECTION 63-2-2 OF THE FAIRFAX COUNTY CODE.

   CONTACT "MISS UTILITY" AT 1-800-257-7777

5a. CONTACT THE VIRGINIA DEPARTMENT OF TRANSPORTATION TWO DAYS BEFORE EXCAVATION IN ANY STATE RIGHT OF WAY AT 359-1271.

6. COUNTY INSPECTOR SHALL BE NOTIFIED WHEN ANY IMPROVEMENTS PERTINENT TO HIS INSPECTION DUTIES ARE BEING INSTALLED. SPECIFIC REQUIREMENTS ARE:
   A. SITE INSPECTOR OR AREA SUPERVISOR IS TO BE NOTIFIED AT LEAST 3 DAYS PRIOR TO START OF CONSTRUCTION.
   B. A MINIMUM OF 24 HOURS NOTICE IS REQUIRED WHEN REQUESTING COMPACTION TESTS AND RESIDENTIAL OR NON-RESIDENTIAL USE PERMITS.
   C. A MINIMUM OF 48 HOURS NOTICE IS REQUIRED WHEN REQUESTING TESTS PRETAINING TO SANITARY SEWER ACCEPTANCE.
7. ALL SURFACED STREETS SHALL BE MAINTAINED IN A CLEAN CONDITION FREE OF DUST, MUD OR SNOW AT ALL TIMES. THE DEVELOPER SHALL PROVIDE ADEQUATE MEANS TO CLEAN TRUCKS AND OTHER EQUIPMENT USING SURFACED STREETS.

FIRE MARSHAL NOTES

REQUIRED FIRE FLOW TO BE DETERMINED BY FIRE PREVENTION DIVISION.

AVAILABLE FIRE FLOW ______ GPM
SOURCE OF FIRE FLOW INFO ______
TYPE OF CONSTRUCTION ______ N/A
NUMBER OF STORIES ______
USE GROUP CLASSIFICATION ______
BUILDING TO BE FULLY SPRINKLERED YES ___ NO ___

SEE PFM CHAPTER 9, PART 2 FOR FULL INFORMATION REQUIRED

SOLID WASTE STATEMENT

REFUSE COLLECTION AGENCY ______
TYPE & SIZE OF CONTAINERS OR EQUIPMENT ______
FREQUENCY OF COLLECTION ______ N/A

RECYCLING SYSTEM PLAN STATEMENT

☐ PFM SECTION 10-407.1A
☐ PFM SECTION 10-407.1B
☐ PFM SECTION 10-407.1C
☐ NO STATEMENT REQUIRED PER PFM 10-0403

N/A

WATER AUTHORITY NOTES

1. ALL WATER MAIN CONSTRUCTION SHALL COMPLY WITH THE REQUIREMENTS OF THE STANDARD SPECIFICATION AND PLANS OF FCWA AND THE REQUIREMENTS OF THE FAIRFAX COUNTY PUBLIC FACILITIES MANUAL.
2. NO WATER MAIN VALVES ARE TO BE CLOSED PRIOR TO NOTIFICATION OF FCWA (PHONE: [illegible]). EXT. 386 OR 380.
3. THE DEVELOPER SHALL REQUEST INSPECTION BY THE PUBLIC WATER SUPPLY AGENCY THREE DAYS PRIOR TO COMMENCING CONSTRUCTION OF ANY WATER MAIN.
4. WORKING PRESSURE SHALL BE ______ P.S.I.
5. THE DEVELOPER WILL BE RESPONSIBLE FOR ANY RELOCATION OR REMOVAL OF WATER MAINS AND APPURTENANCES DUE TO THE DEVELOPMENT OF THIS PROPERTY.
6. Q2D = ______ GPM PER FCWA.
7. THE PROPERTY DESCRIBED ON THIS PLAN IS LOCATED IN AN AREA WHERE THE WATER PRESSURE WILL EXCEED 80 P.S.I. IN ACCORDANCE WITH FCWA RULES AND REGULATIONS AND THE FAIRFAX COUNTY PLUMBING CODE. A PRESSURE REGULATION VALVE MUST BE INSTALLED BY THE PROPERTY OWNER IN THE BUILDING PLUMBING SYSTEM IN ORDER TO ELIMINATE WATER HAMMER AND UNNECESSARY WASTAGE OF WATER.

SITE TABULATIONS (SD PLANS)

1) SITE AREA ______
2) NO. OF LOTS ______
3) AREA OF LOTS ______
4) AVERAGE LOT AREA ______
5) AREA OF PARCEL ______
6) AREA OF PARCEL ______
7) AREA OF PARCEL ______
8) AREA OF PARCEL ______
9) TOTAL AREA OF OPEN SPACE ______
10) AREA OF STREET DEDICATION ______
11) DENSITY (LOTS PER ACRE) ______

N/A N/A

CERTIFICATE OF NO CHANGE

(FOR SUBMISSION OTHER THAN THE FIRST)

I HEREBY CERTIFY THAT NO CHANGES HAVE BEEN MADE THAT WOULD AFFECT THE PRIOR APPROVAL BY THE:
FIRE MARSHAL DATED ______
WATER AUTHORITY DATED ______
HEALTH DEPARTMENT DATED ______
VDOT DATED ______

SHEET INDEX

DAVID H. STEIGLER
Cert. No. 609
03-25-2013
COMMONWEALTH OF VIRGINIA — LANDSCAPE ARCHITECT

Patton Harris Rust & Associates
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FOR INFORMATION ONLY!

PHRA SHEET #14

NOTE:
THIS SHEET IS PROVIDED TO FACILITATE THE REVIEW OF THIS PLAN AND IS A TRUE AND FAITHFUL REPRODUCTION OF THE ORIGINAL. THE ACCURACY OF THE COMPUTATIONS OR VERACITY OF THE ASSUMPTIONS WERE NOT VERIFIED.

CURRENT/SUBSEQUENT INFORMATION REQUIRED PRIOR TO PLAN APPROVAL

INFORMATION	REQUIRED	NOT REQ	ID NUM	COMMENTS/SHEET NO
1. SPECIAL PERMIT		X		
2. SPECIAL EXCEPTION		X		
3. 406 BMP WAIVER/EXCEPTION		X		SEE BMP COMPS., SHEET 8 OF 16
4. SCREENING/BARRIER MOD/WAIVER		X		
5. STORM WATER DETENTION WAIVER		X		SEE DETENTION COMPS, SHEETS 4, 5, 6 & 7 OF 16
6. MINOR SITE PLAN		X		
7. SUBDIVISION WAIVER		X		
8. SIDEWALK/TRAIL WAIVER		X		
9. ROAD WIDENING WAIVER		X		
10. SERVICE DRIVE WAIVER		X		
11. FLOOD PLAIN STUDY		X		SEE SHEET 2 OF 16 FOR SCOTTS RUN U.S.G.S. STUDY
12. DRAINAGE STUDY		X		SEE STORMWATER DET. COMPS. SEE SHEETS 5,6,7 OF 16
13. SOILS REPORT	X			SOILS REPORT & APPROVAL ATTACHED, SHT. 16A OF 16
14. OFF SITE EASEMENTS		X		
15. ON SITE EASEMENTS	X			
16. LETTERS OF PERMISSION		X		
17. STREET LIGHTS		X		
18. REZONING CASE	X		RZ 92-P-001	ATTACHED AT BACK OF PLANS
19. DEVELOPMENT PLAN/CDP/FDP		X	RZ 92-P-001	ATTACHED AT BACK OF PLANS
20. PROFFERS	X			SEE SHEETS 16B, 16C, 16D OF 16
21. CONDITIONS		X		
22. RPA DELINEATION	X			SEE SHEET 2 OF 16
23. WATER QUALITY IMPACT ASSMT		X		
24. CHES BAY ACT EXCEPTIONS		X		PREVIOUSLY APPROVED, SEE SHEET 2 OF 16
25. WETLAND PERMIT REQUIRED		X		
26. AFFORDABLE DWELLING UNITS		X		
27. ARCHITECTURAL REVIEW BOARD		X		
28. BZA VARIANCE		X		
29. BOS APPROVAL		X		
30. PLANNING COMMISSION APPROVAL		X		
31. PROPERTY OWNER NOTIFICATIONS	X			SUBMITTED 8/18/97

MODIFIED PROCESSING APPROVED ☐

DEM REVIEW FEE COMPUTATION

PLAN TYPE	SUBDIVISION PLANS (SD)			SITE PLANS (SP)			PUBLIC IMPROVE.(PI)		
BASE FEE	IF LESS THAN 10 LOTS ($[illegible])		$	BASE FEE=$4800		$ 4,800	BASE FEE=$1725		$
	IF 10 LOTS OR MORE ADD $1500		$	PLUS $[illegible] PER DISTURBED ACRE (AC) OR FRACTION GREATER THAN 1 AC 7.2 AC X $890.31		6,410			$
	SUBTOTAL	1	$	SUBTOTAL MAX = $24,000	1	$11,210	SUBTOTAL	1	$
FEES IN ADDITION TO BASE FEE	APPLY TO ALL PLAN TYPES								
REZONING $1000						1,000			
SPECIAL EXCEPTION OR PERMIT $[illegible]									
VARIANCE $[illegible]									
MAX FEE RELATED TO ZONING $[illegible]	SUBTOTAL	2	$	SUBTOTAL	12	$ 1,000	SUBTOTAL	12	$
PROBLEM SOIL AREA $[illegible]						580			
NATURAL DRAINAGE WAY $[illegible]									
FLOOD PLAIN AREA $[illegible]									
SWM FACILITY (EA) $[illegible]						430			
BMP FACILITY (EA) $[illegible]						1,150			
FEE RELATED TO DRAINAGE & SOILS	SUBTOTAL	3	$	SUBTOTAL	13	$ 2,100	SUBTOTAL	13	$
IMPROVEMENTS ON PI PLANS	APPLIES ONLY TO PUBLIC IMPROVEMENT PLANS						QUAN(LF)	X $[illegible] LF	FEE
SANITARY SEWER									
STORM SEWER									
TRAILS									
SIDEWALKS									
ROAD IMPROVEMENTS									
CHANNEL IMPROVEMENTS									
WATERLINE									
							SUBTOTAL	4	$
TOTAL REVIEW FEE PAYABLE UPON SUBMISSION	ADD 1,2&3 ABOVE		$	ADD 1,2&3 ABOVE		$ 14,310	ADD 1,2,3, & 4 (ABOVE)		$
INSERT FEE $60 PER PAGE DUE PRIOR TO APPROVAL		A	$		A	$		A	$
		B	$		B	$		B	$
RESUBMISSION FEE DUE ON SUBMISSION	$2300 PER SUBMISSION 3rd	3rd	$	$2300 PER SUBMISSION 3rd	3rd	$	50% of ORIG FEE	3rd	$
		4th	$		4th	$		4th	$

COUNTY USE ONLY

DATE	RECEIPT #

SITE TABULATIONS (SP PLANS)

1) AREA IN ACRES 35.30 AREA IN SF 1,537,668
2) AREA OF STREET DEDICATION ______
3) USE S.W.M. FACILITY
4) NO OF LOTS ―― AREA OF LOTS ――
5) EXISTING BUILDING GROSS FLOOR AREA ――
6) EXISTING BUILDING NET FLOOR AREA ――
7) PROPOSED BUILDING GROSS FLOOR AREA ――
8) PROPOSED BUILDING NET FLOOR AREA ――
9) TOTAL FLOOR AREA RATIO (FAR) FOR ENTIRE SITE ――
10) PROPOSED BUILDING HEIGHT ――
11) TOTAL HANDICAPPED PARKING REQUIRED ――
12) TOTAL HANDICAPPED PARKING PROVIDED ――
13) TOTAL HANDICAPPED VAN SPACES REQUIRED ――
14) TOTAL HANDICAPPED VAN SPACES PROVIDED ――
15) LOADING SPACES REQUIRED ――
16) LOADING SPACES PROVIDED ――
17) TOTAL PARKING SPACES REQUIRED ――
18) TOTAL PARKING SPACES PROVIDED ――
19) OPEN SPACE REQUIRED ――
20) OPEN SPACE PROVIDED ――
21) DENSITY (LOTS PER ACRE) ――

ZONING REQUIREMENTS

1) ZONING C-3
2) AVG LOT AREA ――
3) MIN LOT AREA 20,000 SQ.FT.
4) MIN LOT WIDTH 100 FT.
5) MAX BUILDING HEIGHT N/A
6) MIN YARD REQUIREMENTS
FRONT ―― SIDE ―― REAR ――
7) MAXIMUM FAR 1.00
8) MAXIMUM DENSITY ――
9) OPEN SPACE REQUIRED N/A
10) ANGLE OF BULK PLANE DETAIL ON PAGE N/A
11) OVERLAY DISTRICT ――

COMPUTATIONS FOR INTERIOR PARKING LOT LANDSCAPING

(20 OR MORE PARKING SPACES)

AREA OF PARKING LOT ______ SF
LANDSCAPING REQUIRED (5% OF ABOVE) ______ SF
LANDSCAPING PROVIDED ______ SF

N/A

DEM INSPECTION FEE COMPUTATION

A BASE FEE: $14.16 PER DISTURBED ACRE(AC) PER AGREEMENT MONTH (AM) $[illegible] MINIMUM BASE FEE — (1) 7.2 (DAC) x (2) 24 (AM) = 172.8 x $14.16 = 2,447.[illegible]

B STORM DRAINAGE: $[illegible] 1ST 100 LINEAR FEET (LF) PLUS $1.25 EACH ADDITIONAL (LF) OR FRACTION THEREOF — (3) 75 (LF) PIPE & OUTFALLS (4) 25 (LF) PAVED DITCHES; (3+4) 100 (LF) − 100 LF = 0 x $1.25 = 00.00; + 884.20; = 884.00

C STORMWATER MANAGEMENT FACILITIES: DETENTION POND(DP) GREATER THAN 6 FEET EMBANKMENT $1150 ea. (DP) 6 FEET OR LESS [illegible] — (5) 1 (NO.DP) x $1,150.00 = 1,150.00; (6) ―― (NO. DP) x $ 575.00 = ――.00

D DEDICATED STREETS: $[illegible] FOR 1ST 100 LINEAR FEET(LF) PLUS $3.35 FOR EACH ADDITIONAL (LF) OR FRACTION THEREOF — (7) ―― (LF) − 100 LF = ―― x $3.35 = ――.00; + 812.80; = ――.00

E PRIVATE STREETS AND OTHER PAVED AREAS: [illegible] — (8) ―― (LF) − 100 LF = ―― x $2.70 = ――.00; + 580.40; = ――.00; (9) 1,167 (SY) x $0.59 = 689.00 (ACCESS ROAD TO S.W.M. FACILITY)

F DRIVEWAY ENTRANCES: $[illegible] EACH — (10) 1 (NO.) x $69.00 = 69.00

G SIDEWALKS/PEDESTRIAN WALKWAYS, & TRAILS: $137.16 FOR 1ST 100 LINEAR FEET (LF) PLUS $0.69 FOR ADDITIONAL (LF) OR FRACTION THEREOF — (11) ―― (LF) SIDEWALKS (12) ―― (LF) TRAILS & BIKE PATHS; (11+12) ―― (LF) − 100 LF = ―― x $0.69 = ――.00; + 137.16; = ――.00

H SANITARY SEWER: $812.80 FOR THE 1ST 100 LINEAR FEET LF OF MAIN PLUS $2.59 FOR EACH ADDITIONAL LF OR FRACTION THEREOF — (13) ―― (LF) − 100 LF = ―― x $2.59 = ――.00; + 812.80; = ――.00

I ONLY IN PLACE CULVERTS: FEE BASE ON PERCENT OF BOND AMOUNT(BA): (BA) • 5.75% OF THE 1ST $50,000 OF (BA) • 2.85% OF (BA) BETWEEN $50,001 − $200,000 • 1.15% OF (BA) ABOVE $200,000 — (14) A. ―― (BA) LOWER OF A OR B X 0.0575 = ――.00; B.=50,000; C.= ―― LOWER OF C OR D X .0285 = ――; d.=200,000; e.= ―― x.0115 = ――.00

ALL OTHER BONDED IMPROVEMENTS: • 5.75% OF 1ST $50,000 OF (BA) • 7.15% OF BA ABOVE $50,000 — (15) f. ―― (BA) LOWER OF F OR G X 0.0575 = ――.00; G.=50,000; ―― x.0115 = ――.00

TOTAL INSPECTION FEE (16)TOTAL ALL AMOUNTS IN THE 15 BOXES ONLY = 4,8[illegible].00

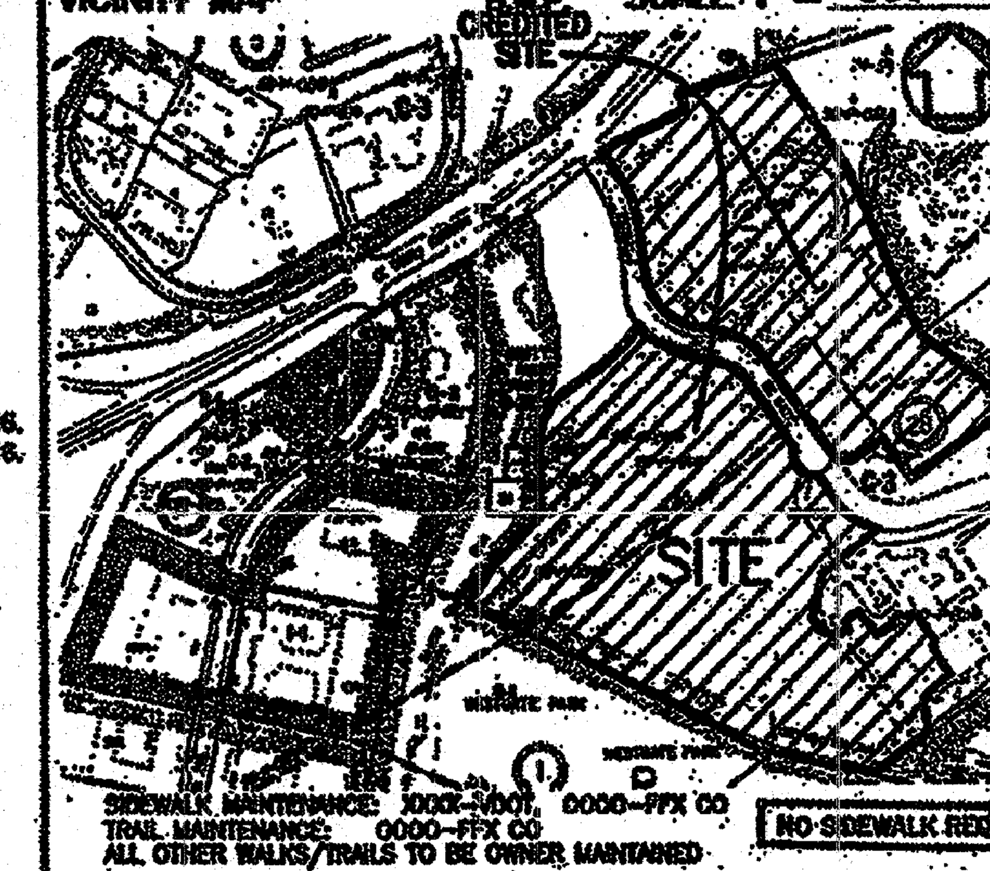
IMPERVIOUS AREA ANALYSIS (ENGINEER'S USE)

	DEVELOPMENT LEVEL PRE	DEVELOPMENT LEVEL POST	IMPERVIOUS AREA COMPUTATIONS PRE	IMPERVIOUS AREA COMPUTATIONS POST
SITE AREA IN ACRES	A	A	N/A	
COMPOSITE RATIONAL C FACTOR	C1	C2		
FRACTIONAL IMPERVIOUSNESS	I1	I2		
TOTAL IMPERVIOUSNESS ACRES	AxI1	AxI2		

INCREASE IN IMPERVIOUS ACRES (AxI2)−(AxI1) ______ ACRES
PRO RATA SHARE ASSESSEMENT AMOUNT $ ______
(WATERSHED RATE X INCREASE IN IMPERVIOUS ACRES)

VICINITY MAP

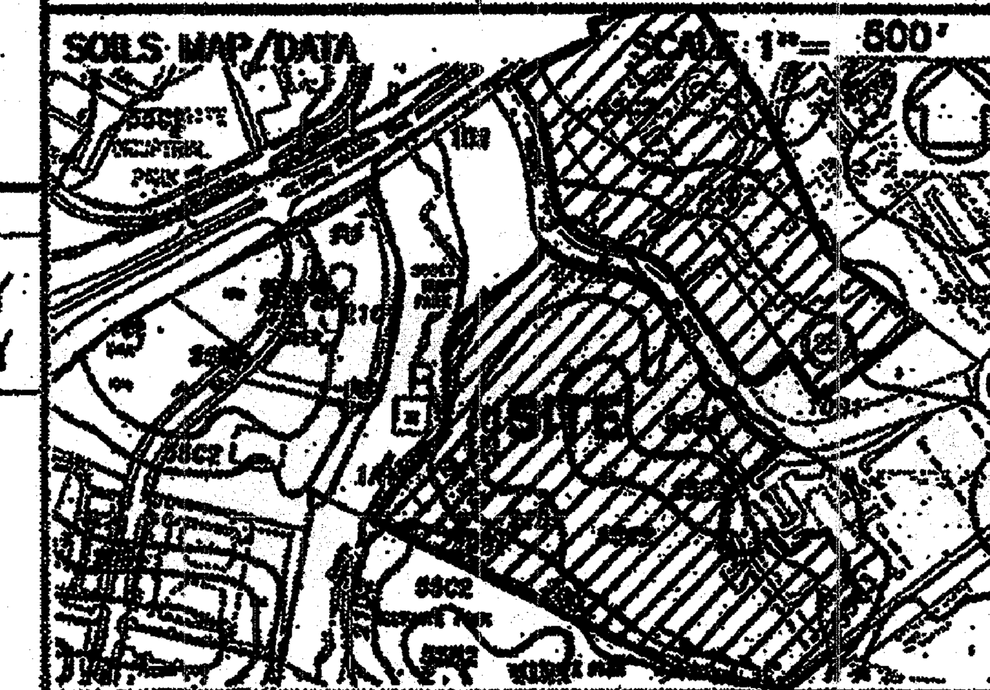
B.M.P. CREDITED SITE — SCALE 1" = 500'



SIDEWALK MAINTENANCE: XXXX-VDOT, OOOO-FFX CO
TRAIL MAINTENANCE: OOOO-FFX CO
ALL OTHER WALKS/TRAILS TO BE OWNER MAINTAINED
NO SIDEWALK REQ'D

SOILS MAP/DATA

SCALE 1" = 500'



SOIL ID NUMBERS	SERIES NAME	FOUNDATION SUPPORT	SUBSURFACE DRAINAGE	SLOPE STABILITY	ERODABILITY	GEOTECHNICAL REPORT REQD
1	MIXED ALLUVIAL	POOR-F,D,W	POOR-F,W	GOOD	SLIGHT	YES
20	MEADOWVILLE	FAIR-B,W	MARGINAL-W	GOOD	MODERATE	YES
21	MANOR	GOOD	GOOD	GOOD	SEVERE	NO
55	GLENELG	GOOD	GOOD	GOOD	SEVERE	NO

SOILS WITH IDENTIFICATION NUMBERS 59, 66, 69, 141, 142, AND 152 MAY OVERLIE PARENT BEDROCK FORMATIONS WHICH HAVE BEEN FOUND TO CONTAIN NATURALLY OCCURRING ASBESTOS MINERALS. SPECIAL MINIMUM CONSTRUCTION MEASURES AND PRECAUTIONS ARE REQUIRED IN COMPLIANCE WITH HEALTH DEPARTMENT DIRECTIVES WITHIN THESE SOILS OR WITHIN FILL ORIGINATING FROM THESE SOILS.

TAX MAP REFERENCE NUMBER(S)

BASE #	DOUBLE CIRCLE #	LOT/PCL.	BASE #	DOUBLE CIRCLE #	LOT/PCL.
30-3	28	B	29-4	28	B
30-3	28	B2	30-3	28	4

SANITARY TREATMENT PLANT SCOTTS RUN
WATERSHED
SCOTTS RUN E-1

AGREEMENTS, PERMITS, ETC

DATE ______ CONSTRUCTION PERMIT RECEIVED
______ SANITARY SEWER AGREEMENT
DATE ______ CONSERVATION ESCROW AGREEMENT RECEIVED.
DATE ______ AGREEMENT AND BOND APPROVED
DATE ______ AGREEMENT EXPIRES
DATE ______ BALANCE OF FEE PAID

DISTURBED AREA (DA) WITHIN WATERSHEDS:
WATERSHED 1 7.2 DA 7.2 ACRES
WATERSHED 2 ______ DA ______
WATERSHED 3 ______ DA ______
TOTAL DISTURBED AREA: 7.2 ACRES

NUMBER OF AFFORDABLE DWELLING UNITS (ADU): N/A
NUMBER OF STORMWATER MANAGEMENT(SWM) FACILITIES: ONE(1)
DETENTION FACILITIES #: ONE(1)
BMP FACILITIES #: ONE(1)
PRIVATE SWM #: ONE(1)

ENGINEER'S/SURVEYOR'S CERTIFICATE:

THIS PROPERTY IS IN THE NAME OF WEST*GATE A VIRGINIA LIMITED PARTNERSHIP ______ AS RECORDED IN DEED BOOK 2871 / 5888 PAGE 261 / 1335 OF THE LAND RECORDS OF FAIRFAX COUNTY, VA

PROFESSIONAL SEAL AND SIGNATURE — PROFESSIONAL SEAL AND SIGNATURE — PROFESSIONAL SEAL AND SIGNATURE

DATE ______ DATE ______ DATE 4-12-01

I HEREBY CERTIFY THAT ALL WETLANDS PERMITS REQUIRED BY LAW WILL BE OBTAINED PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES.

Signature ______
Owner/Developer WEST*GATE, A Virginia Limited Partnership By: Westgate Virginia, Inc., [illegible] / By: Charles B. [illegible] — Exec. V.P.
Name Title

DESIGNATED PLANS EXAMINER CERTIFICATE

1ST SUBMISSION REVIEWED & RECOMMENDED FOR SUBMISSION. ______ DESIGNATED PLANS EXAMINER ______ DATE ______ REG. NO. ______
2nd SUBMISSION REVIEWED & RECOMMENDED FOR APPROVAL ______ DESIGNATED PLANS EXAMINER ______ DATE ______ REG. NO. ______

DATE — RECOMMEND APPROVAL
______ FAIRFAX COUNTY DEPT OF PUBLIC WORKS (STREET LIGHTS)
______ PUBLIC WATER AGENCY
______ LIQUID WASTE DISPOSAL
______ SPECIAL PROJECTS BRANCH (GEOTECHNICAL)
______ SPECIAL PROJECTS BRANCH (WATER QUALITY/E & S/ STORM DRAINAGE)
______ FAIRFAX COUNTY FIRE MARSHAL
______ NORTHERN VIRGINIA SOIL & WATER CONSERVATION DISTRICT
______ FAIRFAX COUNTY HEALTH DEPARTMENT
______ VIRGINIA DEPARTMENT OF TRANSPORTATION
______ PLAN REVIEWER-SITE REVIEW BRANCH
______ SITE REVIEW BRANCH CHIEF

APPROVED:

DATE ______ BY ______
DIRECTOR OF ENVIRONMENTAL MANAGEMENT, FAIRFAX COUNTY, VA

THIS PLAN SHALL EXPIRE WITHOUT NOTICE IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE COUNTY CODE. REVISIONS DO NOT EXTEND THE APPROVAL PERIOD. THE APPROVAL PERIOD IS INDEPENDENT OF THE AGREEMENT EXPIRATION DATE.

THIS APPROVAL IS NOT A COMMITMENT TO PROVIDE PUBLIC SANITARY SEWER

APPROVAL NOTES / CONDITIONS:
ALL UTILITY LOCATIONS "FROM AVAILABLE RECORDS".

Application No. SE 2010-PR-023 Staff S. Lin
APPROVED SE / SP PLAN
SEE DEV CONDS DATED 6.6.11
Date of (BOS) (BZA) approval 6.7.11
Sheet 12 of 17

CERTIFIED ARCHITECT ENGINEER OR SURVEYOR HUNTLEY, NYCE & ASSOCIATES LTD. (703) 750-3490
NAME PHONE ( ) A CORPORATION (X) A PARTNERSHIP ( ) AN INDIVIDUAL
(X) OWNER ( ) TRUSTEE WEST * GROUP PROPERTIES LLC (703) 356-2400
NAME PHONE
1600 ANDERSON ROAD, McLEAN, VIRGINIA 22102
ADDRESS AND ZIP CODE
(X) DEVELOPER ( ) CONTRACT OWNER ( ) LESSEE — SAME AS ABOVE — ( ) A CORPORATION (X) A PARTNERSHIP ( ) AN INDIVIDUAL
NAME SAME AS ABOVE PHONE
SAME AS ABOVE
ADDRESS AND ZIP CODE

DESIGN ENGINEER / SURVEYOR: Huntley, Nyce & Associates, Ltd.
SURVEYING • CIVIL ENGINEERING • LAND PLANNING
7202 POPLAR ST, ANNANDALE, VIRGINIA 22003, 703-750-3490
45150 RUSSELL BRANCH PARKWAY, SUITE 100, ASHBURN, VIRGINIA 22011, 703-729-0146 METRO 478-1051
PROJECT COORDINATOR: ROBERT SPROLES
CHECK IF SUBMITTED BY DPE

PROJECT NAME: **McKINLEY BUILDING SITE S.W.M. FACILITY AT WEST*GATE**
FAIRFAX COUNTY, VIRGINIA
DISTRICT PROVIDENCE

COUNTY NUMBER: **1702-SP-05-2**
PLAN CONTROL TECHNICIAN ______ COUNTY REVIEWER ______

SHEET 1 OF 16
PP - 1801
REVISED: 8/3/99

S.E. APPLICATION THIS SHEET IS FOR INFORMATION PURPOSES

Bowman Consulting Group, Ltd.
14020 Thunderbolt Place
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Chantilly, Virginia 20151
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www.bowmanconsulting.com
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STORMWATER MANAGEMENT
MITRE 4
PROVIDENCE DISTRICT, FAIRFAX COUNTY, VIRGINIA

SE 10-PR-023
COUNTY PROJECT NUMBER

MATTHEW J. TAUSCHER No. 000832 4/18/11 — COMMONWEALTH OF VIRGINIA LANDSCAPE ARCHITECT

PLAN STATUS	
08/24/10	RESUBMISSION
10/25/10	RESUBMISSION
12/15/10	RESUBMISSION
03/15/11	RESUBMISSION
04/18/11	RESUBMISSION
5/10/11	Resubmission
DATE	DESCRIPTION

DESIGN	DRAWN	CHKD
SCALE	H: N.T.S. V:	
JOB No.		
DATE: JULY 30, 2010		
FILE No.		
P-10A SWM		
SHEET 11 OF 17		

Patton Harris Rust & Associates, Inc.
Engineers. Surveyors. Planners. Landscape Architects.
14532 Lee Road
Chantilly, VA 20151-1679
T 703.449.6700
F 703.449.6714

TITLE: STORMWATER MANAGEMENT

PROJECT: MITRE 4
FINAL DEVELOPMENT PLAN
FTP 2011-011-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA.

DESIGN	PHR+A	SURVEY	PHR+A
DRAWN	PHR+A	DATE	AUGUST 01, 2012
CHECKED	PHR+A	SCALE	N/A
FILE NO. 10022-1-9	CAT. NO.	SHEET	14 OF 20

FOR INFORMATION ONLY!

FAIRFAX COUNTY
VIRGINIA

Department of Environmental Management
Division of Design Review
12055 Government Center Parkway
Fairfax, Virginia 22035-5503

TELEPHONE (703) 324-1720

January 12, 1994

Mitra A. Kamrani
Huntley, Nyce and Associates
7202 Poplar Street, Unit E
Annandale, Virginia 22003

Subject: Westgate, Rezoning No. RZ 92-P-001, Tax Map: 30-3-001 and 29-4-006, Providence District

Reference: Waiver No. 014040 - Chesapeake Bay Preservation Exception

Dear Mrs. Kamrani:

An exception to allow proffered Stormwater Management/Best Management Practices (BMP) Facilities to satisfy the requirements of Section 118-3-2-F and to allow development within a mapped resource protection area is hereby approved with the following conditions:

1. All site plans subject to RZ 92-P-001 shall provide on-site BMP's or drain to an approved facility which provides BMP's.
2. The disturbed area within the RPA which is currently undisturbed shall minimized to the extent possible as determined by the Department of Environmental Management.

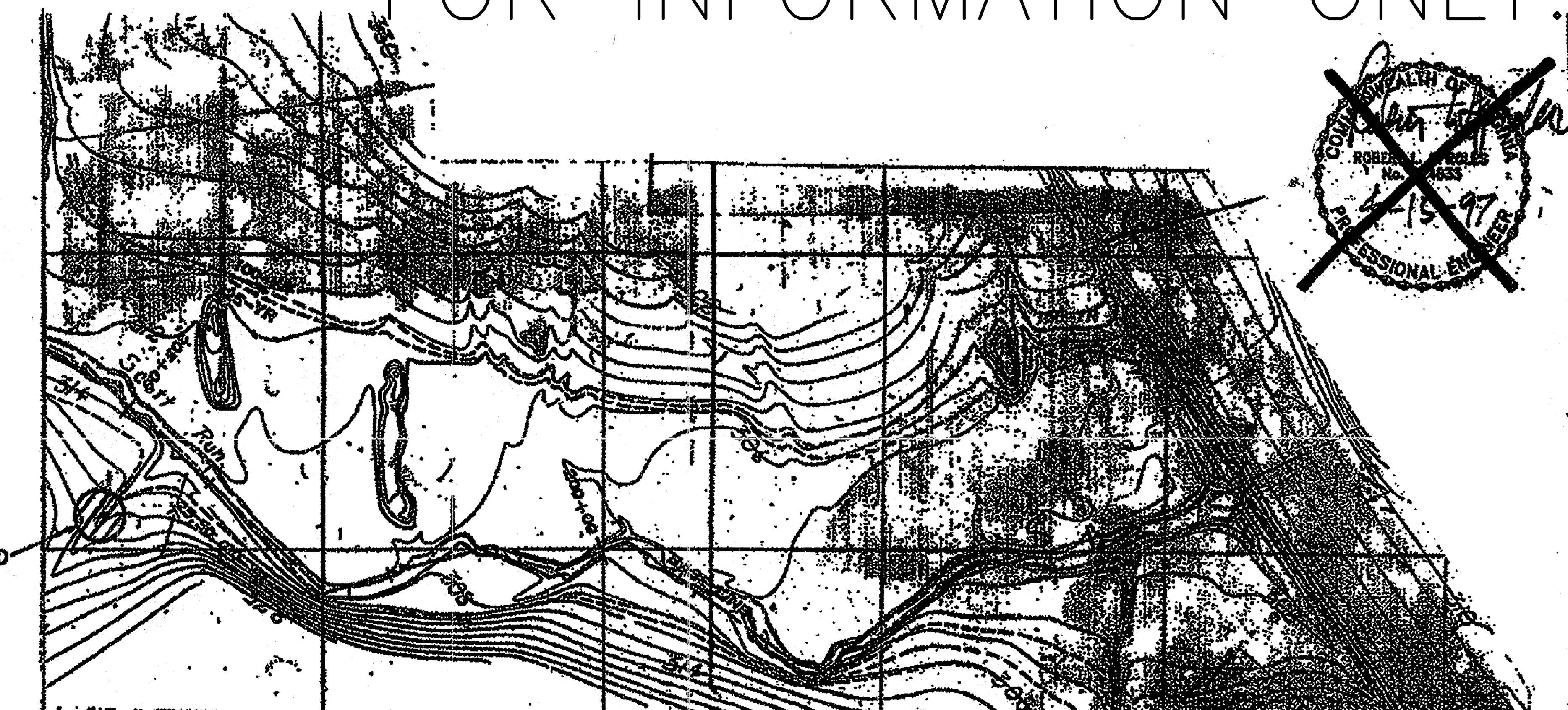
This approval does not exempt this site from any other Federal, State or County ordinance and regulations.

Should you have any questions or require additional information, please contact Charlie Kilpatrick, Assistant Chief, Site Review at 324-1720.

Sincerely,

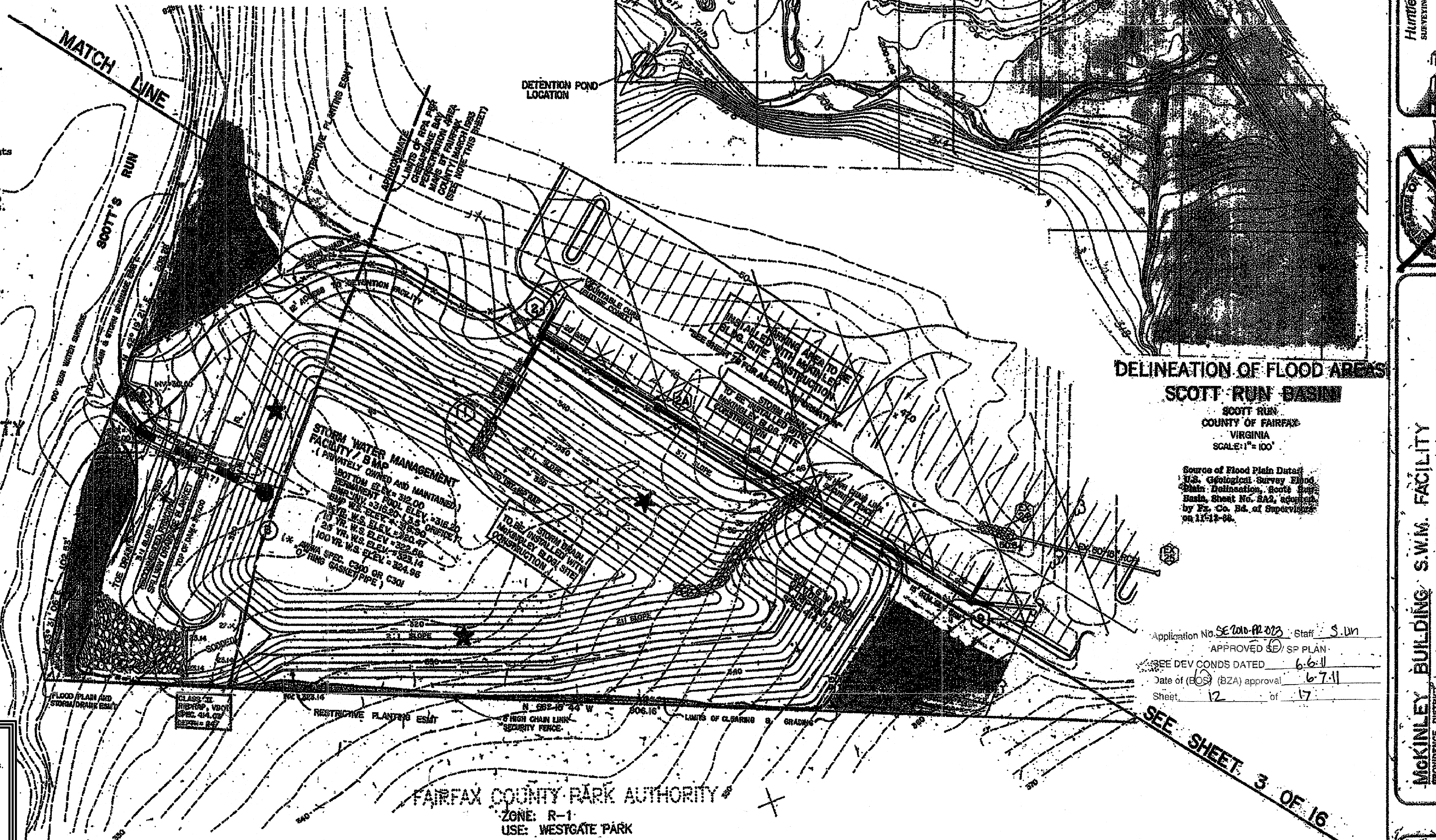
Bruce Nassimbeni, Chief
Site Review Branch

* LOCATION OF TOE DRAIN AND DRAINAGE BLANKET TO BE IN ACCORDANCE WITH GEOTECHNICAL ENGINEER AND APPROVED GEOTECHNICAL REQUIREMENTS.



DELINEATION OF FLOOD AREAS
SCOTT RUN BASIN
SCOTT RUN
COUNTY OF FAIRFAX
VIRGINIA
SCALE: 1" = 100'

Source of Flood Plain Data: U.S. Geological Survey Flood Plain Delineation, Scott Run Basin, Sheet No. 8A2, adopted by Fx. Co. Bd. of Supervisors on 11-13-68.



Application No. SE 2010-PR-023 Staff S. Lin
APPROVED SE / SP PLAN
SEE DEV CONDS DATED 6.6.11
Date of (BOS) (BZA) approval 6.7.11
Sheet 12 of 17

McKINLEY BUILDING S.W.M. FACILITY
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA
"AS BUILT"
SITE PLAN - STORM WATER DETENTION POND

Huntley, Nyce & Associates, P.C.
SURVEYING • CIVIL ENGINEERING • LAND PLANNING
ANNANDALE, VIRGINIA 703-750-3490
MANASSAS, VIRGINIA 703-330-5132, METRO 690-1532
LEESBURG, VIRGINIA 703-777-8914, METRO 478-1651
ROCKVILLE, MARYLAND 301-251-5760

SCALE: 1" = 30'
DATE: 04/01/97
REVISIONS:
8-9-99

SHEET 2 OF 16
FILE NO.

S.E. APPLICATION THIS SHEET IS FOR INFORMATION PURPOSES

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COMMONWEALTH OF VIRGINIA
DAVID H. STEIGLER
Cert. No. 609
03-25-2013
LANDSCAPE ARCHITECT

FOR INFORMATION ONLY!

PHRA SHEET #15

NOTE:
THIS SHEET IS PROVIDED TO FACILITATE THE REVIEW OF THIS PLAN AND IS A TRUE AND FAITHFUL REPRODUCTION OF THE ORIGINAL. THE ACCURACY OF THE COMPUTATIONS OR VERACITY OF THE ASSUMPTIONS WERE NOT VERIFIED.

SCOTT RUN BASIN

Section Number	Cross-Section (feet)	Impervious Cover (per cent)	25-year	50-year	100-year	25-year	50-year	100-year
146	193+00					Dolley Madison Blvd. (State 123)		
147	194+00	65	1800	2100	2300	[illegible]	[illegible]	308.[illegible]
148	[illegible]	[illegible]	[illegible]	2100	2300	[illegible]	[illegible]	[illegible]
149	[illegible]	[illegible]	[illegible]	2100	[illegible]	307.3	[illegible]	308.[illegible]
150	[illegible]	[illegible]	[illegible]	2100	[illegible]	[illegible]	[illegible]	308.[illegible]
151	[illegible]	[illegible]	1800	[illegible]	[illegible]	[illegible]	310.1	310.4
152	[illegible]	[illegible]	1800	[illegible]	[illegible]	312.1	312.4	312.[illegible]
153	205+50		1800	2100	2300	315.0	315.2	315.[illegible]
154	[illegible]		1800	2100	2300	319.2	319.6	319.8
155	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	320.2	320.6	[illegible].8
156	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible].4
157	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible].9
158	[illegible]	65	1800	2100	2300	329.1	329.3	329.5

NOTES:

1. THIS STORMWATER MANAGEMENT FACILITY SHALL BE PRIVATELY MAINTAINED BY PROPERTY OWNER.
2. CHESAPEAKE BAY PRESERVATION AND RESOURCE PROTECTION AREA EXCEPTION WAS APPROVED FOR WESTGATE, RZ 92-P-001, ON JANUARY 12, 1994. SEE COPY ATTACHED TO THIS SHEET.
3. THERE IS NO EVIDENCE OF GRAVE SITES OR MARKERS ON THIS SITE.

★ Critical Slope: To be seeded, mulched and tacked within 15 days after start of grading; or sodded and pegged within 30 days after start.

THE NUMBER OF LOTS IN THIS SUBDIVISION ☐ WILL ☒ WILL NOT BE INCREASED BY THIS REVISION. THE IMPROVEMENTS COVERED BY THIS REVISION CONSISTING OF 2 SHEETS ARE ESTIMATED TO RESULT IN $ NONE ADDITIONAL COSTS FOR THE BONDED IMPROVEMENTS AND THE COST OF THESE IMPROVEMENTS ☐ WILL ☒ WILL NOT EXCEED BY 10% THE AMOUNT OF THE ORIGINAL ESTIMATE FOR THIS PROJECT DATED 4-6-99 WHICH WAS IN THE AMOUNT OF $ 165,000.00
THIS REVISION IS BEING SUBMITTED ON BEHALF OF:
DEVELOPER'S NAME: WEST * GROUP PROPERTIES LLC
Robert W. Klein P.E. 8-9-99
CERTIFYING ENGINEER OR LAND SURVEYOR

DATE	NO.	DESCRIPTION	REVIEW BY	APPROVED	DATE
8-9-99	1	ADD O RING PIPE STR.B TO STR.A			

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

I HEREBY CERTIFY THAT NO OTHER CHANGES HAVE BEEN MADE ON THE PLAN OR PROFILE EXCEPT THOSE PREVIOUSLY APPROVED.
Robert W. Klein P.E. 8-9-99
CERTIFYING ENGINEER OR LAND SURVEYOR

Bowman CONSULTING
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STORMWATER MANAGEMENT
MITRE 4
PROVIDENCE DISTRICT, FAIRFAX COUNTY, VIRGINIA

SE 10-PR-023
COUNTY PROJECT NUMBER

COMMONWEALTH OF VIRGINIA
MATTHEW J. TAUSCHER
No. 000832
4/18/11
LANDSCAPE ARCHITECT

PLAN STATUS	
08/24/10	RESUBMISSION
10/25/10	RESUBMISSION
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03/15/11	RESUBMISSION
04/18/11	RESUBMISSION
05/10/11	Resubmission
DATE	DESCRIPTION

DESIGN | DRAWN | CHKD
SCALE H: N.T.S. V:
JOB No.
DATE: JULY 30, 2010
FILE No.
P-10B SWM
SHEET 12 OF 17

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TITLE
STORMWATER MANAGEMENT

PROJECT
MITRE 4
FINAL DEVELOPMENT PLAN
FTP 2011-011-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA.

DESIGN PHR+A	SURVEY PHR+A
DRAWN PHR+A	DATE AUGUST 01, 2012
CHECKED PHR+A	SCALE N/A
FILE NO. 10022-1-9 / CAT. NO.	SHEET 15 OF 20

P:\PROJECT\10022\1-9\Planning\Plans\P-15 SWM.dwg

FILE NAME: P:\PROJECT\10022\1-9\Planning\Plans\P-15 SWM.dwg LAYOUT NAME: 2013-03 PLOTTED: Thursday, March 21, 2013 - 11:59am

FOR INFORMATION ONLY!

BMP Facility Design Calculations

Plan Name: McKinley Site B.M.P. Facility Date: February 11, 2002
Plan Number: 1702-SP-05 Engineer: Reza Hakimi

I. Water Quality Narrative

The site consists of 35.30 ac. of commercial/office development. A 18.40 acre developed/disturbed area will be draining into the proposed detention/BMP facility. The remaining 16.90 acre is uncontrolled. There is a 4.42 acre school site and 7.63 acre parkland offsite of the property which is naturally draining into the existing swale where the detention facility is proposed to be located. BMP/detention is also provided for this offsite area. The BMP facility will be privately maintained by the owner/developer. The site is proffered to provide 40% BMP in accordance with the Chesapeake Bay Ordinance.

II. Watershed Information

Part 1: List all of the Subareas and "C" Factors used in the BMP Computations

Subarea Designation and Description (1)	"C" (2)	Acres (3)
1. Johnson III (uncont.)	0.70	3.53
2. McKinley, Pierce & Future Taylor (cont.)	0.72	10.40
3. Southwest of Hayes Bldg. (cont.)	0.79	4.34
4. School (Offsite) (cont.)	0.40	4.42
4. Park (Offsite) (cont.)	0.35	2.87
6. McKinley Bldg (uncont.)	0.68	2.60
5. Park (Offsite) (cont.)	0.35	4.76
7. Future Taylor Bldg. (cont.)	0.45	3.66
8. Future Johnson I, II (uncont.)	0.80	10.77

Part 2: Compute the Weighted Average "C" Factor for the Site

(A) Area of the site (a) 35.30 acres

(B) Subarea Designation

Subarea Designation (1)	"C" (2)		Acres (3)		Product (4)
1. Johnson III (uncont.)	0.70	X	3.53	=	2.47
2. McKinley Pierce & Future Taylor (cont.)	0.72	X	10.40	=	7.49
3. Hayes (cont.)	0.79	X	4.34	=	3.43
6. McKinley (uncont.)	0.68	X	2.60	=	1.77
7. Taylor (uncont.)	0.45	X	3.66	=	1.65
5. Johnson I, II (uncont.)	0.80	X	10.77	=	8.62

(b) Total = 25.43

(C) Weighted average "C" factor (b) / (a) = (c) 0.72

Part 3: Compute the Total Phosphorus Removal for the Site

Subarea Designation (1)	BMP Type (2)	Removal Eff. (%) (3)		Area Ratio (4)		"C" Factor Ratio (5)		Product (6)
2.	wet	50	X	10.4/35.30	X	0.72/0.72	=	14.73
4.	wet	(.2) 50	X	4.42/35.30	X	0.40/0.72	=	0.70
3.	wet	50	X	4.34/35.30	X	0.79/0.72	=	6.74
5.	wet	50	X	4.76/35.30	X	0.35/0.72	=	3.28
4.	wet	50	X	2.87/35.30	X	0.35/0.663	=	1.98

(i) Total = 27.43 %

Part 4: Determine Compliance with Phosphorus Removal Requirement

(A) Select Requirement (for new development) (a) 40% Except Redevelopment Areas (See Below)

- Water Supply Overlay District (Occoquan Watershed)= 50% (Fairfax County and Prince William County)
- Chesapeake Bay Preservation Area (New Development) = 40% (Fairfax County) 50% (Prince William County)
- Chesapeake Bay Preservation Area (Redevelopment) = (See Redevelopment Comps. Below)

Redevelopment calc. for:
1.-Johnson III
"C" pre=0.63 "c" post=0.70
Redevelopment=[1-0.9x("c" pre/"c" post)] x100=19%
(See Johnson 3 pre-development map, sheet 9A of 16)
2.-Johnson I & II (Future)
C" pre=0.71 "c" post=0.80
Redevelopment=[1-0.9x("c" pre/"c" post)] x100=20.125%

"BMP." Requirement Calc.

Site Area	Eff.		C Ratio		Area Ratio		Eff.
2. McKinley, Pierce, Taylor	40%	x	0.72/0.72	x	10.40/35.30	=	11.78%
1. Johnson III	19%	x	0.70/0.72	x	3.53/35.30	=	1.85%
3. Hayes	10%	x	0.79/0.72	x	4.34/35.30	=	1.35%
6. McKinley	40%	x	0.68/0.72	x	2.60/35.30	=	2.78%
7. Taylor	40%	x	0.45/0.72	x	3.66/35.30	=	2.59%
8. Johnson I, II	20.125%	x	0.80/0.72	x	10.77/35.30	=	6.89%
					Total		27.17%

(B) If line 3(a) 27.43≥ Line 4(a) 27.17 then Phosphorus removal requirement is satisfied.

V. Storage

Part 7: Compute The Weighted Average "C" Factor for Each Proposed BMP Facility

(A) List the areas to be controlled by the proposed BMP.

Subarea Designation (1) (100% CREDIT		"C" (2)		Acres (3)		Product (4)
2. McKinley, Pierce & Future Taylor	=	0.72	X	10.40	=	7.49
4. School @ 20% CREDIT	=	(.2) 0.40	X	4.42	=	0.35
3. Hayes	=	0.79	X	4.34	=	3.43
6. Park	=	0.35	X	4.76	=	1.67
4. Park	=	0.35	X	2.87	=	1.00

(a) 23.25
(B) (b) 15.36
(C) Weighted average "C" factor (b)/(a) = (c) 0.60

Part 8: Determine the Storage Required for Each Proposed Facility

** (A) Extended Detention Dry Pond
Chart A6-40 value (Appendix 4-3) for BMP storage per acre
[(4375 x "C") – 875] or [31.25 x %imp.] = (a) 1,750 CU.FT./AC.

Design 1 (48 hour drawdown)
Line 7(a) 23.25 Line 8(a) 1,750 = 40,688 cf

(B.) Wet Pond
Volume of runoff per acre from mean storm.
[1452 x "C"] = 1452 x Line 7(c) = (b) 871.20 cf/ac

Design 1 (2.5 x Volume of runoff from mean storm event in wet storage with extended detention above the permanent pool)
Wet Storage
2.5 x Line 7(a)____ x Line 8(b)____ = ____ cf
Extended Detention
Line 7 (a)____ x Line 8(a)____ = ____ cf

* • Design 2 (4.0 x Volume of runoff from mean storm).
4.0 x Line 7(a) 23.25 x Line 8(b) 871.20 = 81021.60 cf

(C) Infiltration Trench
- Design 1 (0.50 inch per impervious acre)
 0.50 x 36.30 x (% imp.)____ x Line 7(a)____ = ____ cf
- Design 2 (1.0 inch per impervious acre)
 1.0x 36.30a x (% imp.)____ x Line 7(a)____ = ____ cf
- Design 3 (2-year 2-hour storm)
 (2.0/12) x 43,560 x "C"____ x Line 7(a)____ = ____ cf

* Wet storage available per as built (see this sheet for storage calc.)=81,264 cf
** Dry storage of 46,196 cf is also provided @ elevation 318.44 ft (see as built shown on this sheet)

VI. Outlet Computation

Part 9: Determine The Required Orifice Size for Each Extended Detention Facility

(A) BMP storage requirement (S) from Part 8. (a) 46,196 cf**

(B) Maximum Head (h) at the required BMP storage from the elevation-storage curve for the facility. (b) 2.24

(C) Peak outflow rate (Qp) at the maximum head for a drawdown time of 48 hrs. [Qp = S/(0.5 x 3600 x 48)]
0.0000116 x Line 9(a) 46,196 = (c) 0.53

(D) Required orifice area (A) $[A = Qp / (0.6 x (64.4 x h)^{0.5})]$
Line 9 (c) 0.53 /[0.6 x (64.4 x Line 9(b) 2.24 $)^{0.5}]$ = (d) 0.0735 s.f.
Per as built 6.5" Dia. Orifice provided @elev. 316.24

(E) Diameter of a circular orifice.
$2.0 x (Line 9(d) 0.0728 / 3.1415927)^{0.5}$ = (e) 0.3059'
=3.67 inch required
use 3.5" dia. orifice

NOTE:
ALL NUMBERS IN PART 9 ARE FROM AS-BUILT DATA BELOW !

AS BUILT VOLUMES
McKINLEY SWM/BMP FACILITY

	ELEV.	AREA	Δ AREA	DEPTH	VOLUME	Total (cf) VOLUME
WET	310.0	1,778	0	0	0	0
	312.0	12,711	7,244	2'	14,488	14,488
	314.0	16,076	14,394	2'	28,788	43,276
	316.0	18,238	17,157	2'	34,314	77,590
	316.2	18,500	18,369	0.2'	3,674	81,264

AS BUILT ELEVATION OF 316.24 WILL YIELD 81,264 CF OF WET STORAGE.

	ELEV.	AREA	Δ AREA	DEPTH	VOLUME	Total (cf) VOLUME
DRY	316.2	18,500	0	0	0	0
	318.0	21,760	20,130	1.8'	36,234	36,234
	320.0	23,525	22,642	2'	45,284	81,518
	322.0	25,430	24,180	2'	48,360	129,878
	324.0	28,146	26,788	2'	53,576	183,454

AS BUILT ELEVATION OF 318.44 WILL YIELD 46,196 CF OF DRY EXTENDED STORAGE.

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COMMONWEALTH OF VIRGINIA · DAVID H. STEIGLER · Cert. No. 609 · 03-25-2013 · LANDSCAPE ARCHITECT

FOR INFORMATION ONLY!

PHRA SHEET #16

NOTE:
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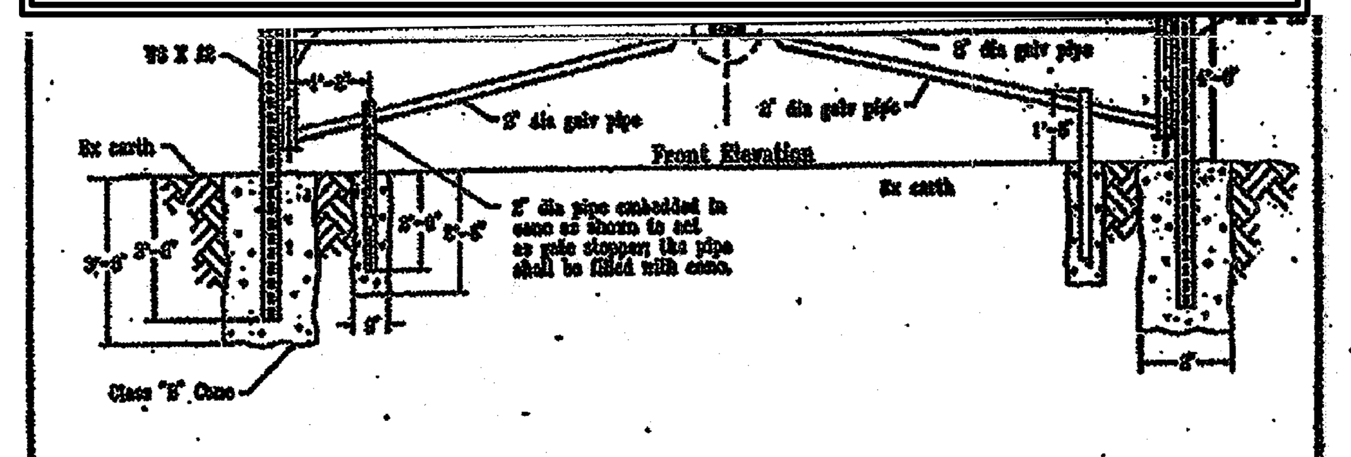
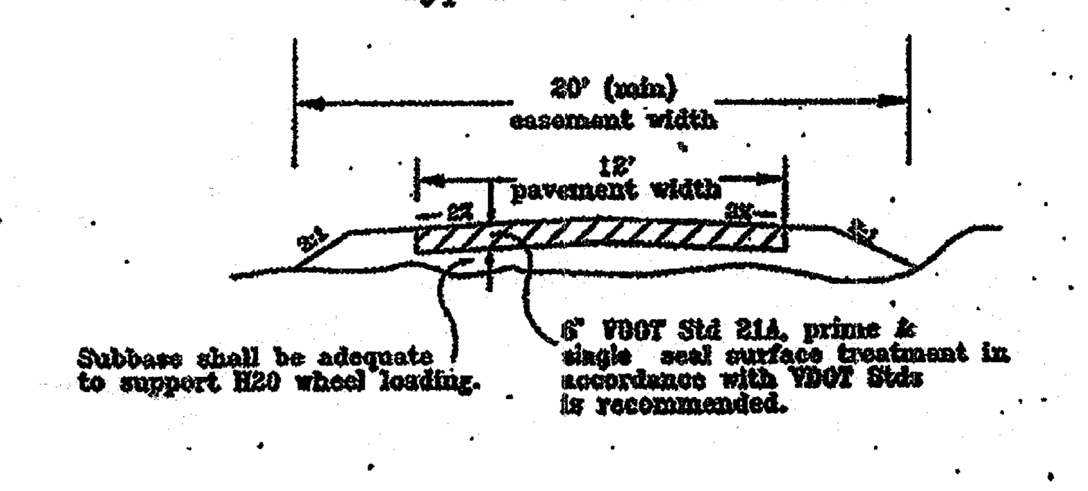


View of Gate at Entrance

* See Plate 71-A

Typ. Access Road Section



Note: Where maintenance access is located between or near residential lots, approved geoblock pavement alternative should be considered.

	STANDARD MAINTENANCE ACCESS ROAD DETAILS FOR STORMWATER MANAGEMENT PONDS	PLATE NO	STD NO
		70-6	

STORM DRAINAGE NARRATIVE

LOCATION
THE SITE IS LOCATED ON THE SOUTH SIDE OF ROUTE #123, DOLLEY MADISON BOULEVARD; BETWEEN COLSHIRE DRIVE AND THE FAIRFAX COUNTY PARK AUTHORITY PROPERTY. STORM WATAER RUNOFF FROM THE SITE DISCHARGES INTO SCOTT'S RUN ABOVE (SOUTH) OF ROUTE #123 AND DRAINS VIA SCOTT'S RUN NORTHERLY UNDER DOLLEY MADISON BOULEVARD, ROUTE #123, UNDER THE DULLES AIRPORT ACCESS ROAD, THRU THE MCLEAN AREA AND FINALLY INTO THE POTOMAC RIVER.

STORM WATER DETENTION/BMP
THE STORM WATER MANAGEMENT FACILITY IS LOCATED IN AN EXISTING DRAINAGE SWALE AT THE REAR OF THE MCKINLEY SITE ADJACENT TO THE SCOTT'S RUN FLOOD PLAIN; IT IS A WET POND FACILITY WHICH WILL BE PRIVATELY MAINTAINED. THE STORAGE VOLUME OF THE DETENTION FACILITY A PERMANENT POOL ELEVATION OF 316.20 IS 81,264 C.F.; AT B.M.P. ELEVATION OF 318.44 IS 44,666 C.F., 2 YEAR PEAK DISCHARGE OF 8.18 CFS. @ ELEVATION 321.34, AND 10 YEAR PEAK DISCHARGE OF 30.81 CFS @ ELEVATION 324.04. A COMPARISON OF THE PRE AND POST DEVELOPMENT RUNOFF IS CALCULATED AS FOLLOWS:

10 YR. STORM
PRE-DEV. RUNOFF = 207.00 CFS
POST-DEV. RUNOFF = 186.81 CFS

2 YR. STORM
PRE-DEV. RUNOFF = 84.0 CFS
POST-DEV. RUNOFF = 82.18 CFS

COMPARISON
10 YEAR STORM = 20.19 CFS REDUCTION
2 YEAR STORM = 1.82 CFS REDUCTION

NOTE:
SEE SHEET 15, 15A, 15B OF 26 FOR OVERALL STORM WATER DETENTION CALCULATIONS. ALTHOUGH NOT SHOWN IN THE CALCULATIONS, A SIMILAR REDUCTION IN THE 100 YEAR STORM DISCHARGES IS ANTICIPATED.

OUTFALL ADEQUACY
STRUCTURE A IS LOCATED AT THE LOWER END OF THE STORM SEWER PIPE OUTLET AT THE STORM WATER DETENTION FACILITY. STRUCTURE A OUTFALLS INTO AN EXISTING BED AND BANKS OUTLET LOCATED AT THE EDGE OF THE SCOTT'S RUN FLOOD PLAIN WHERE A GROUTED RIP RAP DITCH OF 25 LINEAR FEET HAS BEEN PROVIDED TO TRANSITION AND PROTECT AGAINST EROSION.

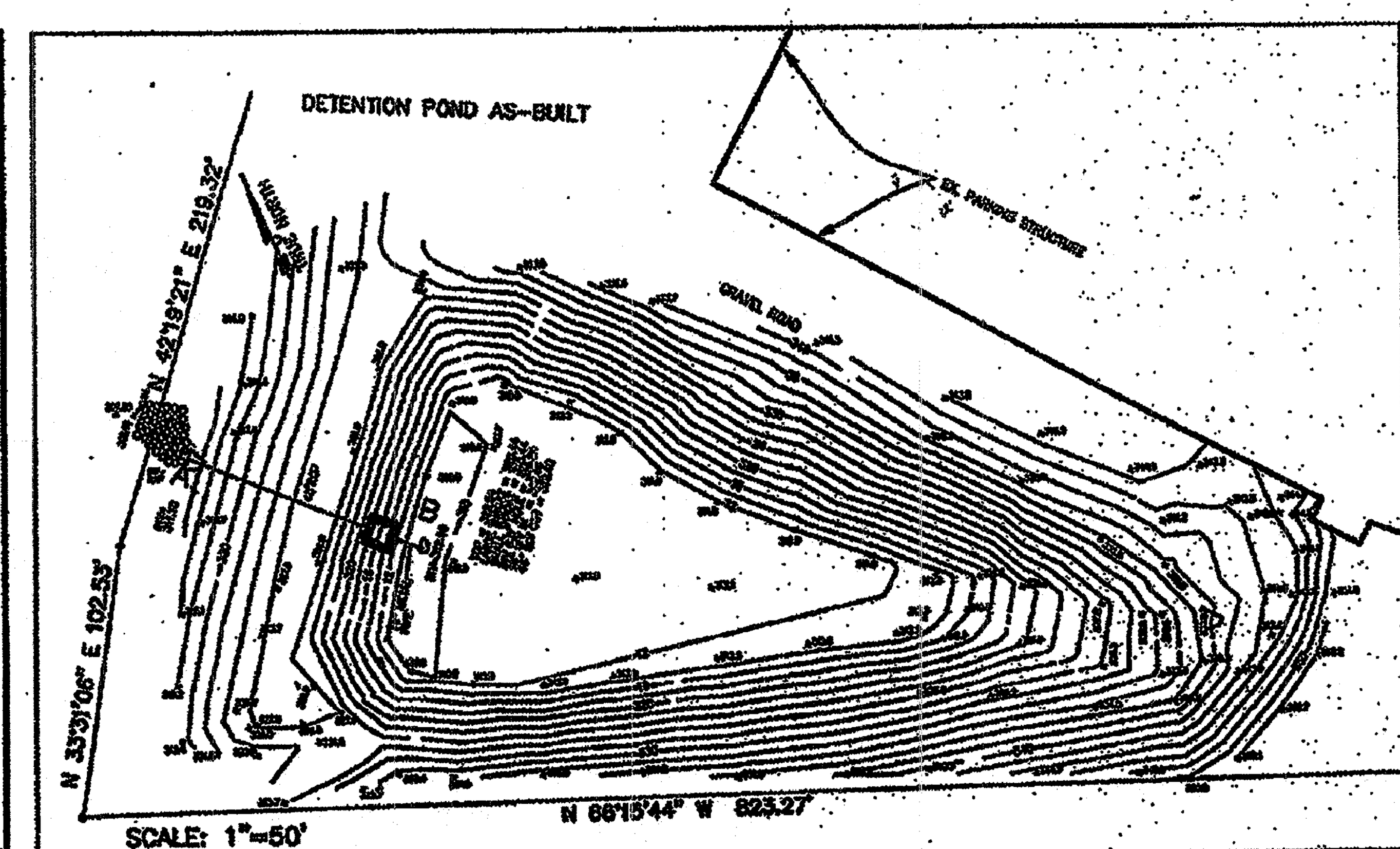
THE OUTLET VELOCITY AT STR. "A" IS 12.8 FPS AT A DISCHARGE OF 30.81 CFS. THE RECEIVING DITCH IS A 3' BOTTOM WITH 2:1 SIDE SLOPES LINED WITH GROUTED RIP RAP. IT HAS A CAPACITY OF 46.81 CFS AT A DEPTH OF 0.75 AND A VELOCITY OF 9.11 FPS. THIS TRANSITIONS INTO A 4' BOTTOM DITCH WITH 2:1 SIDE SLOPES LINED WITH CLASS II RIP RAP WHICH HAS A CAPACITY OF 33.88 CFS AT A DEPTH OF 0.75 AND A VELOCITY OF 7.46 FPS (SEE SHEET 15 OF 26 FOR COMPUTATIONS). THIS IS NON-EROSIVE AND WILL NOT ADVERSELY EFFECT THE EXISTING BED AND BANKS OF THE CHANNEL.

THE 100 YEAR STORM (OVERFLOW) AT THE STORM DETENTION FACILITY IS DISCHARGED THRU THE EMERGENCY SPILLWAY AT A MAXIMUM HIGH WATER ELEVATION OF 325.81 WHICH IS APPROX. 20' BELOW THE LOWEST POINT OF THE PARKING FUTURE AREA, AND 39.20' BELOW THE CELLAR ELEVATION OF THE FUTURE MCKINLEY BUILDING. THE BUILDING WILL NOT BE FLOODED BY THE 100 YEAR STORM AS IT FOLLOWS THE PATH OF OVERLAND RELIEF THRU THE SITE AND DETENTION FACILITY.

GIVEN THE ABOVE INFORMATION, IN OUR OPINION THE OUTFALL FROM THIS SITE (AT STR. A) WHICH DISCHARGES DIRECTLY INTO AN EXISTING FLOOD PLAIN, IS ADEQUATE AND WILL HAVE NO ADVERSE IMPACT ON THE DOWNSTREAM PROPERTIES AND WILL CAUSE NO EROSION ALONG THE FLOOD PLAIN AT THE DISCHARGE POINT AT STR. A (CLASS II RIP-RAP PROTECTION IS PROPOSED TO REDUCE VELOCITY.)

Application No. ____ Staff ____
APPROVED SE/SP PLAN
SEE DEV CONDS DATED 6.6.11
Date of (BOS) (BZA) approval 6.7.11
Sheet 13 of 17

S.E. APPLICATION THIS SHEET IS FOR INFORMATION PURPOSES



DATE	NO	DESCRIPTION	REVIEW BY	APPROVED	DATE
10/09/01	1	REVISED BMP COMPUTATIONS PER REVISED DRAINAGE MAP, AND AS-BUILT TOPO AND VOLUMES ADDING JOHNSON 3 AND POND			

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

I HEREBY CERTIFY THAT NO OTHER CHANGES HAVE BEEN MADE ON THE PLAN OR PROFILE EXCEPT THOSE PREVIOUSLY APPROVED. 3-14-02
CERTIFYING ENGINEER OR LAND SURVEYOR

THIS SHEET FOR B.M.P. PURPOSES ONLY !

McKINLEY SITE B.M.P. FACILITY
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA
BMP FACILITY DESIGN CALCULATIONS/DRAINAGE NARRATIVE

SCALE: AS SHOWN
DATE: 10-09-01
REVISIONS:

SHEET 8 OF 16
FILE NO. PP-1801

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45190 RUSSELL BRANCH PARKWAY SUITE 100 ASHBURN, VIRGINIA 20111 703-729-0145 METRO 478-1051

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STORMWATER MANAGEMENT
MITRE 4
PROVIDENCE DISTRICT, FAIRFAX COUNTY, VIRGINIA

SE 10-PR-023
COUNTY PROJECT NUMBER

COMMONWEALTH OF VIRGINIA · MATTHEW J. TAUSCHER · No.000832 · 4/18/11 · LANDSCAPE ARCHITECT

PLAN STATUS	
08/24/10	RESUBMISSION
10/25/10	RESUBMISSION
12/15/10	RESUBMISSION
03/15/11	RESUBMISSION
04/18/11	RESUBMISSION
05/10/11	Resubmission
DATE	DESCRIPTION

DESIGN	DRAWN	CHKD

SCALE H: N.T.S. V:
JOB No.
DATE: JULY 30, 2010
FILE No.
P-10C SWM
SHEET 13 OF 17

Patton Harris Rust & Associates, Inc.
Engineers. Surveyors. Planners. Landscape Architects.
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TITLE: STORMWATER MANAGEMENT

PROJECT: MITRE 4
FINAL DEVELOPMENT PLAN
FTP 2011-011-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA.

DESIGN PHR+A	SURVEY PHR+A
DRAWN PHR+A	DATE AUGUST 01, 2012
CHECKED PHR+A	SCALE N/A
FILE NO. 10022-1-9 / CAT. NO.	SHEET 16 OF 20

FOR INFORMATION ONLY!

DRAINAGE DIVIDES ARE FOR DETENTION PURPOSES ONLY !!

COMMONWEALTH OF VIRGINIA
DAVID H. STEIGLER
Cert. No. 609
03-25-2013
LANDSCAPE ARCHITECT

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PHRA SHEET #17

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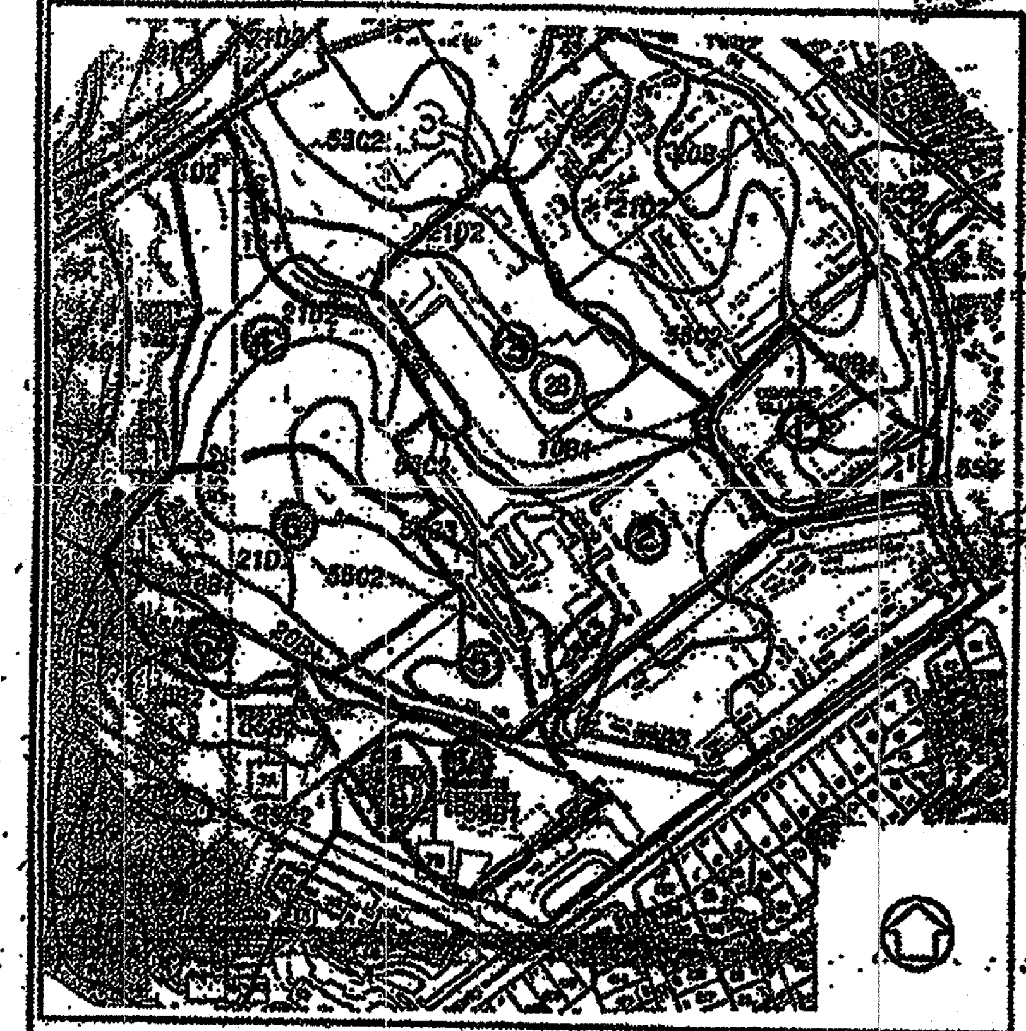


SOILS MAP
(SCALE: 1"=500')

OFFSITE DRAINAGE MAP
(SCALE: 1"=500')

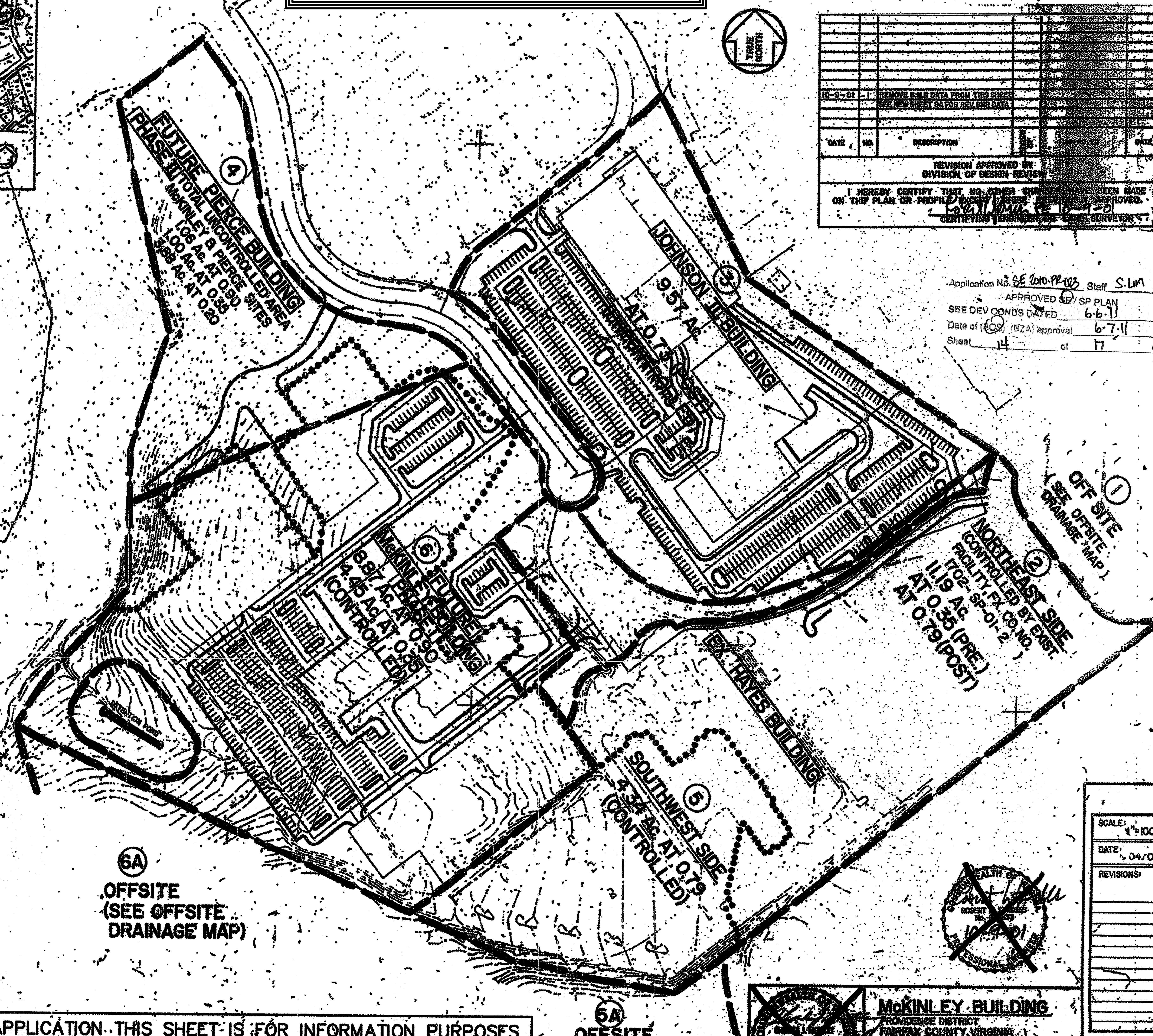
Sub area "A" includes sites #1,2,3,4
Sub area "B" includes sites #5,6,5A,6A

Site #	Type of Soil	Hyd. Group	Description
1	55B2 55C2 20B+	B B B	Residential Type B = 3.60 Acres
2	55C2 10B+ 55C8 55C2 55B9	B C B B B	Woods & Grass combination Type B = 7.[illegible] Acres Type C = 4.6 Acres
3	55C2 21D2 10B1	B B C	Existing Commercial Site Type B = 4.[illegible] Acres Type C = 5.51 Acres
[illegible]	1A+ 21D2 55C2 55B3	D B B B	Commercial @ post. dev. condition woods-grass combination @ pre. develop. condition Type D = 2.67 Acres Type B = 6.02 Acres (pre) Type B = 3.27 Acres (post)
4	55B3 55C2 20B+	B B B	Commercial @ post.-dev. woods-grass comb. @ pre-dev. cond. Type B = 5.18 Ac. (pre) Type B = 4.34 Ac. (post)
[illegible]	[illegible] 55B3 55C2	B B B	School & Parkland @ post-devel. cond. woods-grass combination @ pre-devel. cond. Type B = 7.29 Ac.
[illegible]	55B3 55C2 21D2 20B+ 1A+	B B B B D	Commercial @ post-develop. cond. Woods-grass comb. @ pre-develop. conditions Type B = 10.04 Ac. (pre) Type B = 12.82 Ac. (post) Type D = 0.83 Ac.
6A	55C2 55B2 21D2	B B B	Parkland @ post-develop. conditions Woods-grass comb. @ pre-develop. conditions Type B = 1.89 Ac.

STORM SEWER DESIGN COMPUTATIONS

ROUTE ____ PROJ. McKinley Building
COUNTY ____ DISTRICT ____
DESCRIPTION [illegible]

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	5	7.27										
Ex.10[illegible]	Ex.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7.27	[illegible]	[illegible]	[illegible]	45	[illegible]	15"	12.9	12.9	[illegible]	97%
16	Ex.1[illegible]	[illegible]	[illegible]	[illegible]	0.21	5	7.27	1.[illegible]									
Ex.10[illegible]	Ex.1[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7.27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	15"	[illegible]	[illegible]	[illegible]	[illegible]



S.E. APPLICATION THIS SHEET IS FOR INFORMATION PURPOSES

Huntley, Nyce & Associates, P.C.
SURVEYING · CIVIL ENGINEERING · LAND PLANNING

DATE	NO.	DESCRIPTION		APPROVED	DATE
10-9-01	1	REMOVE B.M.P. DATA FROM THIS SHEET SEE NEW SHEET 9A FOR REV. BMP DATA		[illegible]	[illegible]

REVISION APPROVED BY DIVISION OF DESIGN REVIEW

I HEREBY CERTIFY THAT NO OTHER CHANGES HAVE BEEN MADE ON THE PLAN OR PROFILE EXCEPT THOSE SPECIFICALLY APPROVED.
[signature] 10-9-01
CERTIFYING ENGINEER OR LAND SURVEYOR

Application No. SE 2010-PR-023 Staff S. Lin
APPROVED SE / SP PLAN
SEE DEV CONDS DATED 6.6.11
Date of (BOS) (BZA) approval 6.7.11
Sheet 14 of 17

McKINLEY BUILDING
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA
(FUTURE)
OVERALL DRAINAGE PLAN

SCALE: 1"=1000'
DATE: 04/01/97
REVISIONS:
SHEET 9 OF 16
FILE NO. PF-1801

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STORMWATER MANAGEMENT
MITRE 4
PROVIDENCE DISTRICT, FAIRFAX COUNTY, VIRGINIA

SE 10-PR-023
COUNTY PROJECT NUMBER

COMMONWEALTH OF VIRGINIA
MATTHEW J. TAUSCHER
No.000832
4/18/11
LANDSCAPE ARCHITECT

PLAN STATUS	
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10/25/10	RESUBMISSION
12/15/10	RESUBMISSION
03/15/11	RESUBMISSION
04/18/11	RESUBMISSION
05/10/11	Resubmission
DATE	DESCRIPTION

DESIGN	DRAWN	CHKD
SCALE	H: N.T.S. V:	
JOB No.		
DATE: JULY 30, 2010		
FILE No.		
P-10D SWM		
SHEET 14 OF 17		

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F 703.449.6714

TITLE
STORMWATER MANAGEMENT

PROJECT
MITRE 4
FINAL DEVELOPMENT PLAN
FTP 2011-011-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA.

DESIGN	PHR+A	SURVEY	PHR+A
DRAWN	PHR+A	DATE	AUGUST 01, 2012
CHECKED	PHR+A	SCALE	N/A
FILE NO. 10022-1-9	CAT. NO.	SHEET	17 OF 20

FOR INFORMATION ONLY!

COMMONWEALTH OF VIRGINIA
DAVID H. STEIGLER
Cert. No. 609
03-25-2013
LANDSCAPE ARCHITECT

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PHRA SHEET #18

NOTE:
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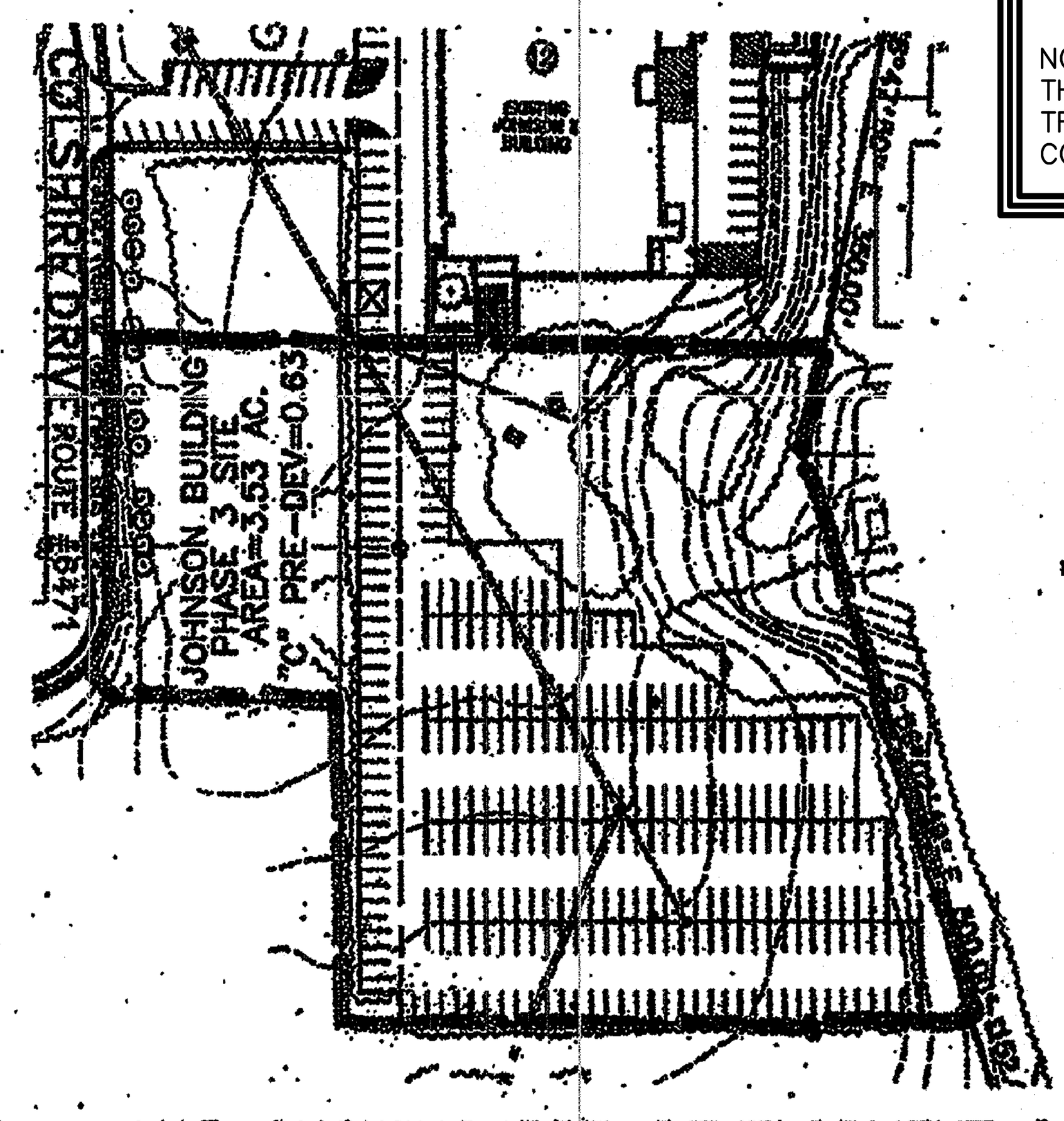
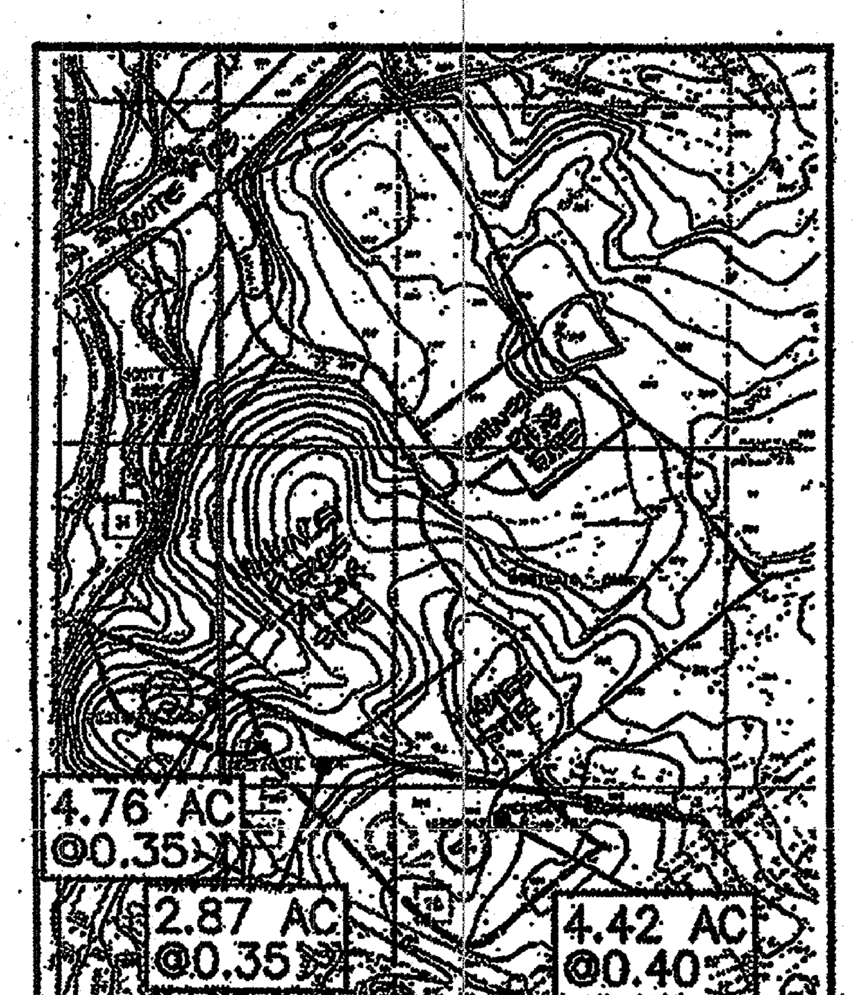


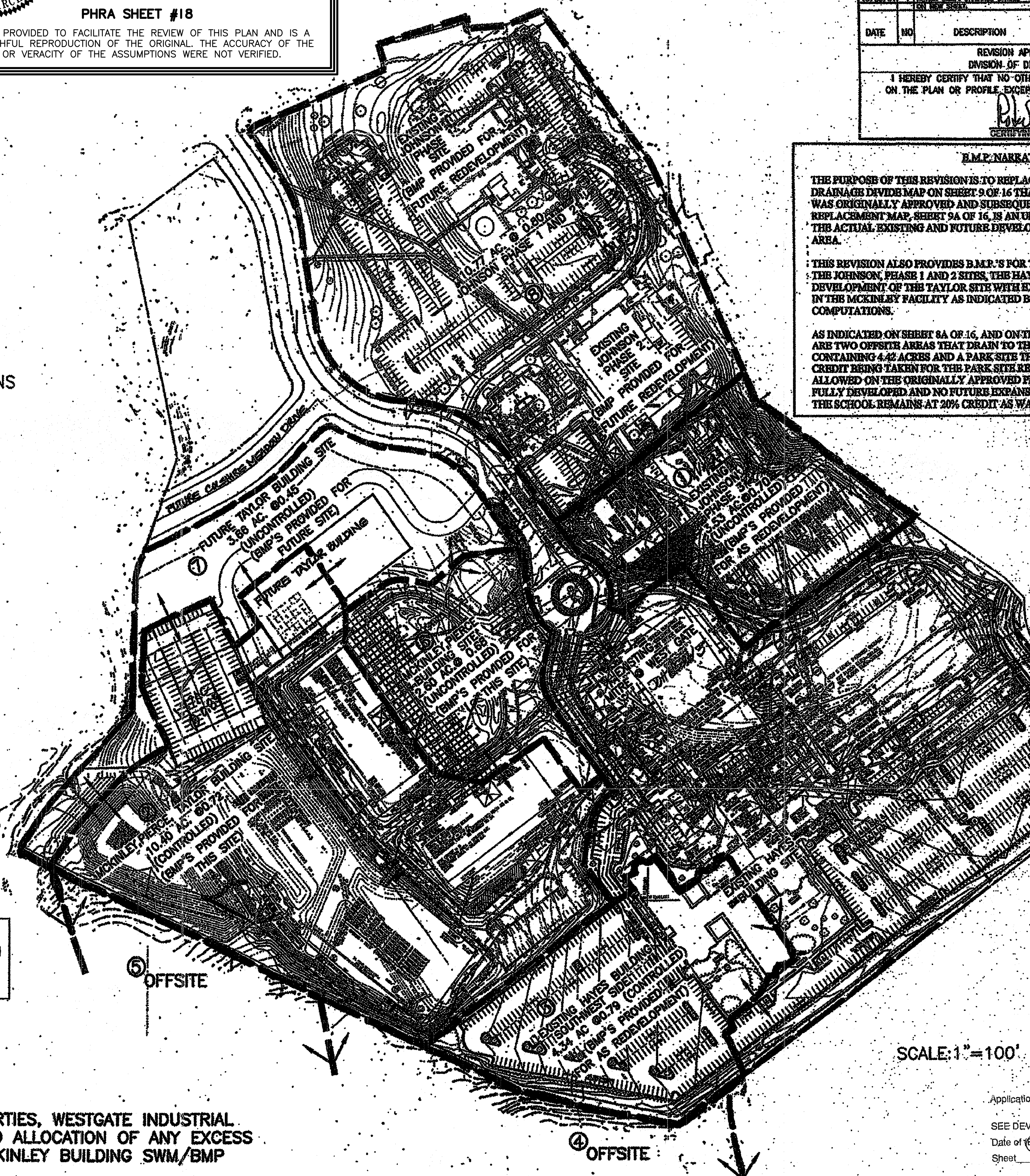
MAP SHOWING PRE-DEVELOPMENT CONDITIONS
OF JOHNSON BUILDING, PHASE 3 SITE
SCALE: 1"=100'



OFFSITE DRAINAGE
DIVIDE MAP
SCALE: 1"=500'

AREA ④ – 2.87 AC.(PARK) @ 0.35 (100% CREDIT).
4.42 AC.(SCHOOL) @0.40 (20% CREDIT)

AREA ⑤ – 4.76 AC.(PARK) @ 0.35 (100%. CREDIT)



DATE	NO	DESCRIPTION	REVIEW BY	APPROVED	DATE
10/09/01	1	REVISE B.M.P. DRAINAGE DIVIDES ON NEW SHEET			

REVISION APPROVED BY
DIVISION OF DESIGN REVIEW

I HEREBY CERTIFY THAT NO OTHER CHANGES HAVE BEEN MADE ON THE PLAN OR PROFILE EXCEPT THOSE PREVIOUSLY APPROVED.

[signature] PE 3-14-02
CERTIFYING ENGINEER OR LAND SURVEYOR

B.M.P. NARRATIVE

THE PURPOSE OF THIS REVISION IS TO REPLACE AND CORRECT THE OLD B.M.P. DRAINAGE DIVIDE MAP ON SHEET 9 OF 16 THAT WAS BASED ON A PLAN WHICH WAS ORIGINALLY APPROVED AND SUBSEQUENTLY EXPIRED. THE REPLACEMENT MAP, SHEET 9A OF 16, IS AN UPDATED VERSION THAT REFLECTS THE ACTUAL EXISTING AND FUTURE DEVELOPMENT IN THE COLSHIRE DRIVE AREA.

THIS REVISION ALSO PROVIDES B.M.P.'S FOR THE FUTURE REDEVELOPMENT OF THE JOHNSON, PHASE 1 AND 2 SITES, THE HAYES SITE, AND FOR THE FUTURE DEVELOPMENT OF THE TAYLOR SITE WITH EXCESS B.M.P. CAPACITY AVAILABLE IN THE MCKINLEY FACILITY AS INDICATED BY THE ATTACHED B.M.P. COMPUTATIONS.

AS INDICATED ON SHEET 8A OF 16, AND ON THE ORIGINAL SHEET 9 OF 16, THERE ARE TWO OFFSITE AREAS THAT DRAIN TO THE POND; A SCHOOL SITE CONTAINING 4.42 ACRES AND A PARK SITE THAT CONTAINS 7.63 ACRES. THE CREDIT BEING TAKEN FOR THE PARK SITE REMAINS AT 100%, WHICH WAS ALLOWED ON THE ORIGINALLY APPROVED PLAN AS THE PARK PROPERTY WAS FULLY DEVELOPED AND NO FUTURE EXPANSION OF THE PARK IS ANTICIPATED. THE SCHOOL REMAINS AT 20% CREDIT AS WAS ORIGINALLY APPROVED.

NOTE: THE OWNERS WEST*GROUP INC., OF THESE PROPERTIES, WESTGATE INDUSTRIAL PARK, RESERVES THE RIGHT FOR FUTURE USE AND ALLOCATION OF ANY EXCESS B.M.P.'S AND STORM WATER DETENTION IN THE McKINLEY BUILDING SWM/BMP FACILITY.(FX.CO.#1702-SP-05).

S.E. APPLICATION THIS SHEET IS FOR INFORMATION PURPOSES

THIS SHEET FOR B.M.P. PURPOSES ONLY !

Application No. SE 2010 PR-023 Staff S. Lui
APPROVED (SE) SP PLAN
SEE DEV CONDS DATED 6.6.11
Date of (BOS), (BZA) approval 6.7.11
Sheet 15 of 17

Huntley, Nyce & Associates, Ltd.
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SUITE 100
ASHBURN, VIRGINIA 20011
703-729-0145 METRO 478-1051

McKINLEY SITE B.M.P. FACILITY
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA
OVERALL B.M.P. DRAINAGE DIVIDE MAP

SCALE: AS SHOWN
DATE: 10-09-01
REVISIONS:

SHEET 9A OF 16
FILE NO. PP-1801

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STORMWATER MANAGEMENT
MITRE 4
PROVIDENCE DISTRICT, FAIRFAX COUNTY, VIRGINIA

SE 10-PR-023
COUNTY PROJECT NUMBER

COMMONWEALTH OF VIRGINIA
MATTHEW J. TAUSCHER
No.000832
4/18/11
LANDSCAPE ARCHITECT

PLAN STATUS	
08/24/10	RESUBMISSION
10/25/10	RESUBMISSION
12/15/10	RESUBMISSION
03/15/11	RESUBMISSION
04/18/11	RESUBMISSION
05/10/11	Resubmission
DATE	DESCRIPTION

DESIGN	DRAWN	CHKD
SCALE	H: N.T.S. V:	
JOB No.		
DATE: JULY 30, 2010		
FILE No.		
P-10E SWM		
SHEET 15 OF 17		

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TITLE
STORMWATER MANAGEMENT

PROJECT
MITRE 4
FINAL DEVELOPMENT PLAN
FTP 2011-011-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA.

DESIGN	PHR+A	SURVEY	PHR+A
DRAWN	PHR+A	DATE	AUGUST 01, 2012
CHECKED	PHR+A	SCALE	N/A
FILE NO. 10022-1-9	CAT. NO.	SHEET	18 OF 20

FOR INFORMATION ONLY!

COMMONWEALTH OF VIRGINIA
DAVID H. STEIGLER
Cert. No. 609
03-25-2013
LANDSCAPE ARCHITECT

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PHRA SHEET #19

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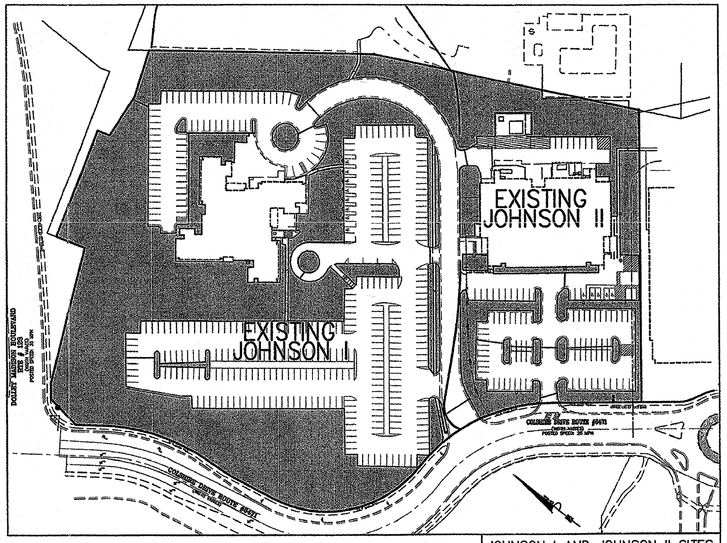


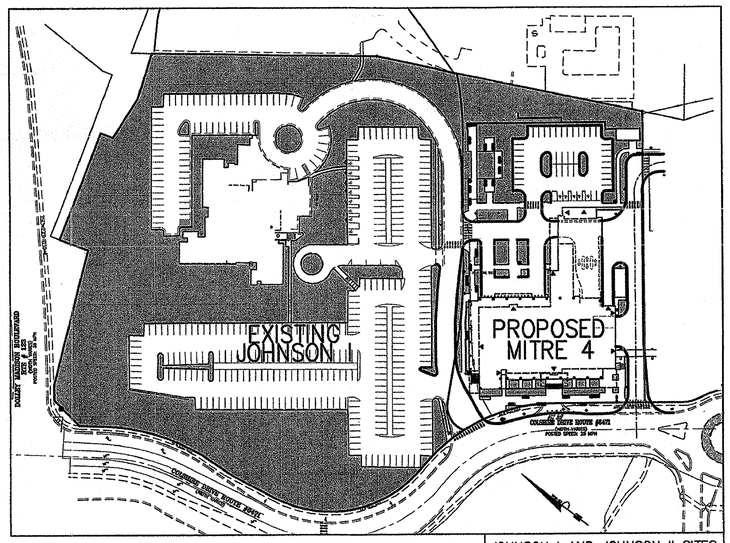
1/17 EXISTING PERVIOUS AREA EXHIBIT

SCALE: 1"=100'

NOTE: THIS EXHIBIT SHOWS THE ACTUAL EXISTING PERVIOUS AREA ON THE JOHNSON I AND JOHNSON II SITES.

= PERVIOUS AREA

JOHNSON I AND JOHNSON II SITES:
EXISTING CONDITIONS:
SITE AREA: 10.77 ACRES
PERVIOUS AREA: 209,095 SF
% PERVIOUS: 45%
% IMPERVIOUS: 55%
C-FACTOR: 0.63



2/17 PROPOSED PERVIOUS AREA EXHIBIT

SCALE: 1"=100'

NOTE: THIS EXHIBIT SHOWS THE PERVIOUS AREA BASED ON THE EXISTING CONDITIONS OF THE JOHNSON I SITE AND THE PROPOSED REDEVELOPMENT OF THE JOHNSON II SITE.

JOHNSON II SITE ONLY:
PROPOSED CONDITIONS:
% IMPERVIOUS: 75%

JOHNSON I AND JOHNSON II SITES:
PROPOSED CONDITIONS:
SITE AREA: 10.77 ACRES
PERVIOUS AREA: 197,474 SF
% PERVIOUS: 42%
% IMPERVIOUS: 58%
C-FACTOR: 0.65

Part 3: Compute the Total Phosphorus Removal for the Site

Subarea Designation (1)	BMP Type (2)	Removal Eff (%) (3)		Area Ratio (4)		"C" Factor Ratio (5)		Product (6)
2.	wet	50	X	10.4/35.30	X	0.72/0.72	=	14.73
4.	wet	(.2) 50	X	4.42/35.30	X	0.40/0.72	=	0.70
3.	wet	50	X	4.34/35.30	X	0.79/0.72	=	6.74
5.	wet	50	X	4.76/35.30	X	0.35/0.72	=	3.28
4.	wet	50	X	2.87/35.30	X	0.35/0.663	=	1.98
						(a) Total=		27.43 %

Part 4: Determine Compliance with Phosphorus Removal Requirement

(A) Select Requirement (for new development) — (a) 40% Except Redevelopment Areas (See Below)

- Water Supply Overlay District (Occoquan Watershed)= 50% (Fairfax County and Prince William County)
- Chesapeake Bay Preservation Area (New Development) = 40% (Fairfax County) 50% (Prince William County)
- Chesapeake Bay Preservation Area (Redevelopment) = (See Redevelopment Comps. Below)

Redevelopment calc. for:
1. Johnson III
"C" pre=0.63 "c" post=0.70
Redevelopment=[1-0.9x("c" pre/"c" post)] x100=19%
(See Johnson 3 pre-development map, sheet 9A of 16)
2. Johnson I & II (Future)
C" pre=0.71 "c" post=0.80
Redevelopment=[1-0.9x("c" pre/"c" post)] x100=20.125%

"BMP" Requirement Calc.

Site Area	Eff.		C Ratio		Area Ratio		Eff.
2. McKinley, Pierce, Taylor	40%	x	0.72/0.72	x	10.40/35.30	=	11.78%
1. Johnson III	19%	x	0.70/0.72	x	3.53/35.30	=	1.85%
3. Hayes	10%	x	0.79/0.72	x	4.34/35.30	=	1.35%
6. McKinley	40%	x	0.68/0.72	x	2.60/35.30	=	2.78%
7. Taylor	40%	x	0.45/0.72	x	3.66/35.30	=	2.59%
8. Johnson I, II	20.125%	x	0.80/0.72	x	10.77/35.30	=	6.89%
						Total	27.17%

(B) If line 3(a) 27.43> Line 4(a) 27.17 then Phosphorus removal requirement is satisfied.

3/17 PORTION OF BMP COMPUTATIONS FROM SHEET 12

NOTE: THE ABOVE BMP COMPUTATIONS ARE TAKEN FROM SHEET 12 OF THIS PLAN SET (SHEET 8 OF 16 FROM THE MCKINLEY POND PLAN #1702-SP-005-2), AND ARE SHOWN ON THIS SHEET AS REFERENCE ONLY. THE COMPUTATIONS ARE BASED UPON THE PFM'S (IN EFFECT IN 1999) REDEVELOPMENT FORMULA WHICH UTILIZED C(PRE) AND C(POST). SEE BELOW FOR REVISED BMP COMPUTATIONS BASED UPON THE CURRENT PFM REDEVELOPMENT FORMULA WHICH UTILIZES I(PRE) AND I(POST).

Redevelopment Calculation for:

Johnson III

I (PRE) = 55%
I (POST) = 67%

BASED UPON STRAIGHT CONVERSION OF C-FACTOR FROM MCKINLEY COMPS TO IMPERVIOUS PERCENTAGE. (I.E. 'C' OF 0.9=100%, 'C' OF 0.3=0%)

Redevelopment = [1 - 0.9*((I(PRE)/I(POST))] * 100
Redevelopment = 26.12%

Johnson I & II (Future)

I (PRE) = 55%
I (POST) = 58%

BASED UPON IMPERVIOUS AREA EXHIBITS ON THIS SHEET. SEE EXHIBIT FOR DESCRIPTION OF PROPOSED CONDITIONS.

Redevelopment = [1 - 0.9*((I(PRE)/I(POST))] * 100
Redevelopment = 14.66%

"BMP" Requirement Calc

Site Area	Eff.		C Ratio			Area Ratio			Eff
2. Mckinley, Pierce Taylor	40.00%	x	0.72	/	0.72	x	10.40	/ 35.30	= 11.78%
1. Johnson III	26.12%	x	0.70	/	0.72	x	3.53	/ 35.30	= 2.54%
3. Hayes	10.00%	x	0.79	/	0.72	x	4.34	/ 35.30	= 1.35%
6. McKinley	40.00%	x	0.68	/	0.72	x	2.60	/ 35.30	= 2.78%
7. Taylor	40.00%	x	0.45	/	0.72	x	3.66	/ 35.30	= 2.59%
8. Johnson I, II	14.66%	x	0.65	/	0.72	x	10.77	/ 35.30	= 4.04%
								Total =	25.08%
Phosphorous Removal Requirement=	25.08%								
Phosphorous Removal Provided =	27.43%								

BASED UPON IMPERVIOUS AREA EXHIBITS ON THIS SHEET. SEE EXHIBIT FOR DESCRIPTION OF PROPOSED CONDITIONS.

Therefore, the phsophorous removal requirement has been satisfied.

[ ] BOXED NUMBER INDICATES A REVISED VALUE FROM THAT SHOWN ON THE MCKINLEY POND BMP COMPS.

4/17 UPDATED BMP COMPUTATIONS PER CURRENT PFM STANDARDS

NOTE: THE PURPOSE OF THE ABOVE BMP COMPUTATIONS ARE TO DEMONSTRATE THAT THE BMP REQUIREMENTS FOR THE JOHNSON I AND JOHNSON II SITES ARE STILL SATISFIED VIA THE MCKINLEY POND, WHEN UTILIZING THE PFM'S CURRENT REDEVELOPMENT FORMULA FROM SECTION 6-401.2B.

Application No. SE 2010-PR-023 Staff Sims
APPROVED GP / SP PLAN
SEE DEV CONDS DATED 6-1-11
Date of (BOS) (BZA) approval 6-7-11
Sheet 17 of 17

Bowman CONSULTING

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10/25/10	RESUBMISSION
12/15/10	RESUBMISSION
03/15/11	RESUBMISSION
04/18/11	RESUBMISSION
5/16/11	Per discussion
DATE	DESCRIPTION

DESIGN	DRAWN	CHKD
SCALE	H: N.T.S. V:	
JOB No.		
DATE:	JULY 30, 2010	
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P-10G SWM		
SHEET 17 OF 17		

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TITLE: STORMWATER MANAGEMENT

PROJECT: MITRE 4
FINAL DEVELOPMENT PLAN
FTP 2011-011-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA.

SURVEY	PHR+A		
DESIGN	PHR+A	DATE	AUGUST 01, 2012
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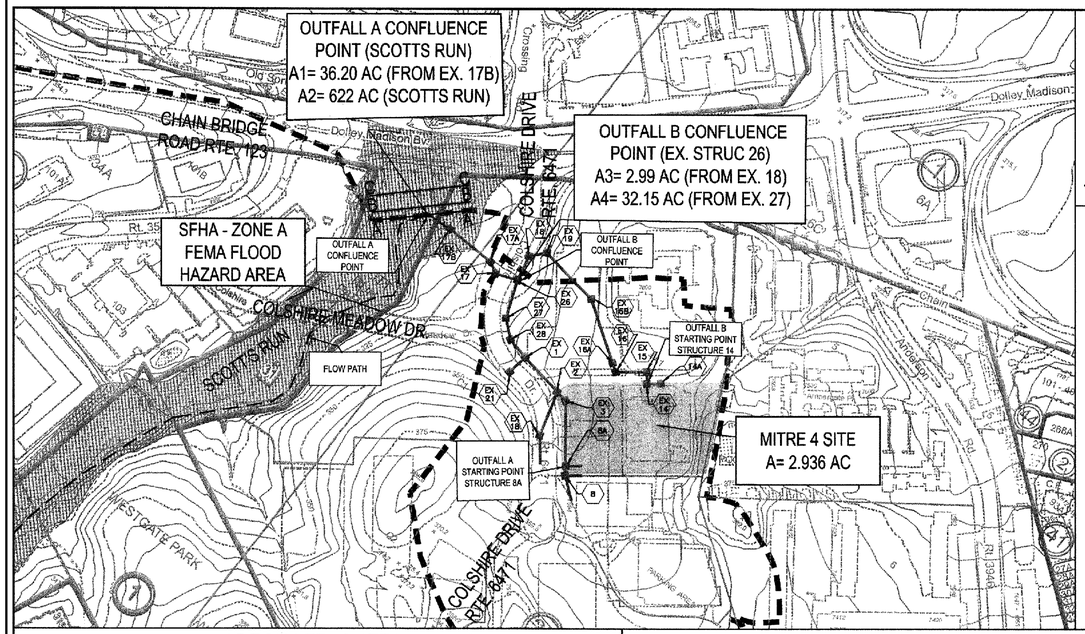
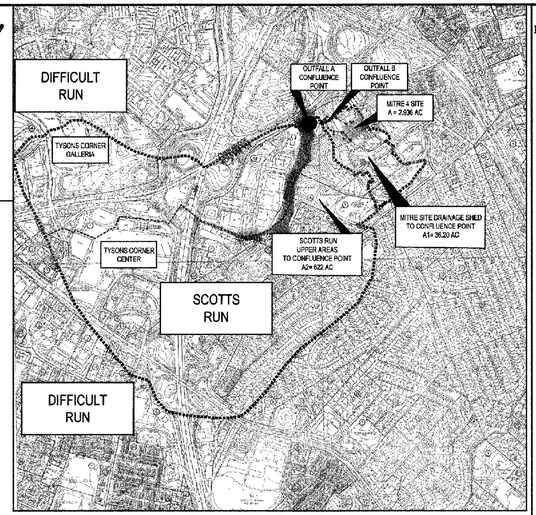


ADEQUATE OUTFALL MAP
(SCALE: 1"=200')

VA NORTH ZONE NAD 83



OVERALL ADEQUATE OUTFALL MAP
(SCALE: 1"=500')

1992 3.18

TABLE 3.18-B?

PERMISSIBLE VELOCITIES FOR EARTH LININGS

Soil Types	Permissible Velocities (ft./sec.)
Fine Sand (noncolloidal)	2.5
Sandy Loam (noncolloidal)	2.5
Silt Loam (noncolloidal)	3.0
Ordinary Firm Loam	3.5
Fine Gravel	5.0
Stiff Clay (very colloidal)	5.0
Graded, Loam to Cobbles (noncolloidal)	5.0
Graded, Silt to Cobbles (colloidal)	5.5
Alluvial Silts (noncolloidal)	5.5
Alluvial Silts (colloidal)	5.0
Coarse Gravel (noncolloidal)	6.0
Cobbles and Shingles	5.5
Shales and Hard Plans	6.0

Source: Soil and Water Conservation Engineering, Schwab, et.al. and American Society of Civil Engineers

ADEQUATE OUTFALL NARRATIVE:

MITRE 4 PROJECT IS PROPOSED TO BE CONSTRUCTED ON THE EXISTING PAD SITE OF THE JOHNSON II BUILDING PREVIOUSLY DEMOLISHED UNDER APPROVED FAIRFAX SITE PLAN # 3638-SP-002. IT CONSISTS OF A 14-STORY OFFICE BUILDING, A 4-LEVEL UNDERGROUND PARKING STRUCTURE, A PIAZZA, A POCKET PARK SEATING AREA, A NETWORK OF PEDESTRIAN WALKS, 40 SPACES SURFACE PARKING LOT TO THE NORTHEAST, LANDSCAPING, AND UTILITIES. THE MITRE 4 SITE AREA IS 2.936 ACRES, AND THE PROPOSED WORK REQUIRE THE DISTURBANCE OF APPROXIMATELY 3 ACRES UNDER THIS SITE PLAN.

THE SITE GENERALLY SLOPES FROM THE NORTHEAST TO THE SOUTHWEST, AND IT IS BORDERED TO THE NORTH BY JOHNSON I (A SIX-STORY OFFICE BUILDING), WHICH HAS A PARKING LOT DRAINING FROM EAST TO WEST TO COLSHIRE DRIVE.

TO THE SOUTH IS THE MITRE 3 BUILDING, WHICH SLOPES FROM EAST TO WEST. TO THE NORTH IS (PRIVATE ROAD) THAT LEADS TO JOHNSON I. TO THE NORTHEAST IS THE COMMONS, A RESIDENTIAL DEVELOPMENT. TO THE SOUTHWEST IS COLSHIRE DRIVE (RTE. 6471) AND AN EXISTING ROUNDABOUT.

THE FOLLOWING ANALYSIS OF DOWNSTREAM DRAINAGE SYSTEM IS DONE IN ACCORDANCE WITH PFM SECTION 6-0203. THE EXTENT OF THE REVIEW OF THE DOWNSTREAM DRAINAGE THAT APPLIES FOR THIS SITE PLAN IS AS FOLLOWS:

6-0203.2A TO A POINT THAT IS AT LEAST 150 FT DOWNSTREAM OF A POINT WHERE THE RECEIVING PIPE OR CHANNEL IS JOINED BY ANOTHER THAT HAS A DRAINAGE AREA THAT IS AT LEAST 90% OF THE SIZE OF THE FIRST DRAINAGE AT THE POINT OF CONFLUENCE.

THE STARTING POINT FOR THE SITE IS WHERE THE PROPOSED DRAINAGE SYSTEM MEETS THE EXISTING DRAINAGE SYSTEM. MITRE 4 SITE OUTFALLS AT TWO DIFFERENT LOCATIONS:

1- OUTFALL A
2- OUTFALL B

OUTFALL A

OUTFALL A STARTING POINT IS PROPOSED JUNCTION BOX 8A, AND THE CONFLUENCE POINT IS WHERE DRAINAGE AREA (A1 = 36.20 AC) FROM OUTFALL (EX. 17B) MEETS DRAINAGE AREA (A2 = 622 AC) FROM UPPER SCOTTS RUN (SEE MAP ON THIS SHEET). IN ADDITION, THE CONFLUENCE POINT IS LOCATED IN FEMA FLOOD HAZARD AREA DESIGNATED AS (SFHA - ZONE A).

APPLYING PFM 6-203.2A, THE EXTENT OF THE OUTFALL ANALYSIS IS TAKEN TO 150' DOWNSTREAM OF THE POINT OF CONFLUENCE (SEE SHEET C-19B FOR STORM SEWER COMPUTATIONS AND THIS SHEET FOR MAP AND CROSS-SECTIONS A-A THROUGH C-C). THE TOTAL DRAINAGE AREA CONTRIBUTING TO THE POINT OF CONFLUENCE IS 658.20 AC (60% IMPERVIOUS ESTIMATED BASED ON CURRENT USES, CURRENT ZONING AND COMPREHENSIVE PLAN, AND AVAILABLE RECORDS). OUTFALL A DRAINAGE SYSTEM CONTRIBUTES ONLY 5.5 %, WHILE UPPER SCOTTS RUN AREAS THAT START AT THE MOST HYDRAULICALLY REMOTE POINT (1.20 MILES FROM CONFLUENCE POINT) CONTRIBUTE 94.5 %.

BASED ON FIELD VISIT OBSERVATIONS, THE CHANNEL AT THE POINT OF CONFLUENCE IS CONSIDERED GRADED SILT WITH COBBLES WITH n = 0.050 (SEE PHOTOS). THE GENERAL TYPE OF SOIL IN THE CHANNEL, BASED ON COUNTY SOILS MAP CONSISTS OF CODORUS (SILTY AND LOAMY ALLUVIUM ERODED FROM SCHIST, GRANITE AND GNEISS), AND HAS LOW EROSION POTENTIAL (SEE SCHEMATIC AND PHOTOS). ACCORDING TO TABLE 3.18-B, PERMISSIBLE VELOCITIES FOR EARTH LININGS IN CHAPTER 5 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (CURRENT EDITION), THE PERMISSIBLE VELOCITY IS 5.5 FT/S.

CROSS-SECTIONS A-A THROUGH C-C ARE IRREGULAR SECTIONS BASED ON FIELD SURVEY SHOWN ON THIS SHEET, AND THE 2 YR VELOCITIES ARE WITHIN THE TOLERANCE (< 5.5 FT/S) ALLOWED BY THE OBSERVED LINING OF THE CHANNEL (SEE PHOTOS). THE CROSS-SECTIONS PROFILES SHOW THAT THE 10 YR WATER SURFACE ELEVATION (10 YR WSE) DOES NOT OVERTOP THE BEDS AND BANKS OF THE CHANNEL (SEE THIS SHEET).

OUTFALL B

OUTFALL B STARTING POINT IS STRUCTURE 14 (PROPOSED MANHOLE TOP FORMERLY AN EXISTING INLET) LOCATED ON PRIVATE ACCESS ROAD, AND THE CONFLUENCE POINT FOR THIS OUTFALL IS INLET 26 LOCATED ON COLSHIRE DRIVE (SEE MAP ON THIS SHEET). THE DRAINAGE AREA CONTRIBUTING TO PROPOSED INLET 14A IS 0.19 AC WHICH OUTFALLS INTO AN EXISTING STORM SEWER SYSTEM UNDER JOHNSON I PROPERTY. THE TOTAL DRAINAGE AREA CONTRIBUTING TO STRUCTURE 26 IS A3 = 2.99 AC WHILE THE AREA CONTRIBUTING FROM THE UPSTREAM EXISTING DRAINAGE SYSTEM ALONG COLSHIRE DRIVE FROM STRUCTURE 27 IS A4 = 32.15 AC. THIS JUSTIFIES STRUCTURE 26 AS OUTFALL B CONFLUENCE POINT, THE ENDING POINT OF THIS OUTFALL ANALYSIS IS TAKEN 150' TO EXISTING DRAINAGE STRUCTURE EX 17B (SEE SHEET C-19B FOR STORM SEWER COMPUTATIONS).

THE MITRE 4 PROJECT LID PLAN COMPLIES WITH THE ENVIRONMENTAL STEWARDSHIP GUIDELINES WITHIN THE COUNTY'S COMPREHENSIVE MASTER PLAN FOR THE TYSONS CORNER URBAN CENTER. THE RE-USE OF STORM DRAINAGE FROM BUILDING ROOF FOR BUILDING COOLING WATER MAKE-UP VIA AN UNDERGROUND CISTERN (SEE SHEETS C-21B - C-22C) ACHIEVES THE 25% REDUCTION OF THE 2 YR FLOW AND VOLUME. THIS CONSTITUTES AN EXEMPLARY BETTEREMENT THAT REDUCES THE STRAIN ON SCOTTS RUN STREAM FROM CONVENTIONAL DEVELOPMENT.

GIVEN THE ABOVE JUSTIFICATIONS, IT IS THE SITE ENGINEER'S OPINION THAT ADEQUATE OUTFALL EXISTS FOR THE PROPOSED FLOWS LEAVING THIS SITE, AND THAT NO ADVERSE IMPACTS TO DOWNSTREAM PROPERTY WILL RESULT FROM THE IMPROVEMENTS TO THIS SITE.

STREAM CHANNEL AT POINT OF CONFLUENCE LOOKING TOWARDS UPSTREAM SCOTTS RUN

UPPER SCOTTS RUN STREAM A2 = 622 AC

UPPER SCOTTS RUN STREAM
A2 = 622 AC
Q2yr = 1202.99 CFS
Q10yr = 2269.24 CFS

SCOTTS RUN STREAM TO CONFLUENCE POINT

90% RULE CONFLUENCE POINT

END OF OUTFALL ANALYSIS POINT 150' DOWNSTREAM OF 90% RULE CONFLUENCE POINT

VIEW OF OUTFALL A FROM POINT OF CONFLUENCE LOOKING TOWARDS 20'L X 20'W RIPRAP CHANNEL FROM EX.17B

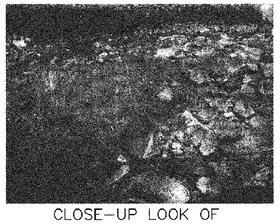
20'L X 20'W CLASS III RIPRAP TO CONFLUENCE POINT

GRADED SILT CHANNEL WITH COBBLES n = 0.050

MITRE 4 OUTFALL A DRAINAGE AREA TO EX. 17B A1 = 36.20 AC

MITRE 4 OUTFALL A TO EX. 17B
A1 = 36.20 AC
Q2yr = 119.41 CFS
Q10yr = 159.21 CFS

CHANNEL CROSS-SECTIONS A-A THROUGH C-C LOOKING DOWNSTREAM TOWARDS END OF OUTFALL ANALYSIS



CLOSE-UP LOOK OF CHANNEL CROSS-SECTION AT END OF OUTFALL ANALYSIS POINT

ADEQUATE OUTFALL SCHEMATIC DIAGRAM

COMMONWEALTH OF VIRGINIA
DAVID H. STEIGLER
Cert. No. 609
03-25-2013
LANDSCAPE ARCHITECT

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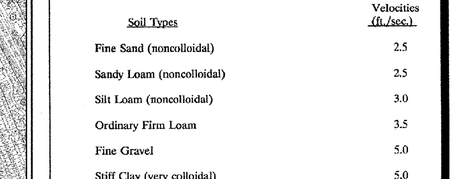
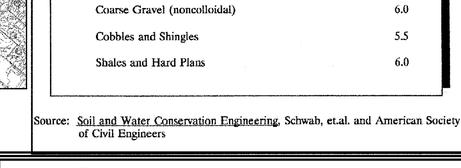
NOTE:
THIS SHEET IS PROVIDED TO FACILITATE THE REVIEW OF THIS PLAN AND IS A TRUE AND FAITHFUL REPRODUCTION OF THE ORIGINAL. THE ACCURACY OF THE COMPUTATIONS OR VERACITY OF THE ASSUMPTIONS WERE NOT VERIFIED.

STREAM CROSS-SECTIONS

SECTION A-A
1" = 50' H
1" = 10' V



SECTION B-B
1" = 50' H
1" = 10' V



SECTION C-C
1" = 50' H
1" = 10' V

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CHECKED	PHR+A	SCALE	AS SHOWN
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PROJECT: MITRE 4
LAND BAY B-3
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA.

TITLE: ADEQUATE OUTFALL ANALYSIS

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PROJECT: MITRE 4
FINAL DEVELOPMENT PLAN
FTP 2011-011-02
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VA.

TITLE: STORMWATER ADEQUATE OUTFALL ANALYSIS

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